



INTERNATIONAL AGREEMENTS/COMMITMENTS

SECRETARY

SAMUEL W. BODMAN

JANUARY 2005-DECEMBER 2008

Matthews, Carol

From: Morman, Laurie
Sent: Monday, November 24, 2008 2:52 PM
To: Nicoll, Eric; Matthews, Carol
Subject: RE: MOU's and Agreements
Attachments: Agreements - 1979 to Present.pdf

Here's an electronic version of what PI provided.....

From: Nicoll, Eric
Sent: Monday, November 24, 2008 11:40 AM
To: Morman, Laurie; Kolb, Ingrid; Matthews, Carol
Subject: RE: MOU's and Agreements

OK then we will not include the ones which have come up here. Thanks. Did they organize it by year?

From: Morman, Laurie
Sent: Monday, November 24, 2008 11:38 AM
To: Nicoll, Eric; Kolb, Ingrid; Matthews, Carol
Subject: RE: MOU's and Agreements

PI has already provided the International agreements.

From: Nicoll, Eric
Sent: Monday, November 24, 2008 11:37 AM
To: Kolb, Ingrid; Morman, Laurie; Matthews, Carol
Subject: MOU's and Agreements

We are pulling together MOU's and Agreements which are in our system, and it looks like there are roughly 75 going back to the start of the Administration. Please note, however, that we would only have a record of things that were brought for signature by S1, S2 or the Unders. We would not necessarily have agreements signed by Assistant Secretaries (think of all those that Mr. Karsner signed). It may be necessary to conduct a data call.

Do you know if PI has been asked for international agreements? We have a fair amount of them in this search, however I believe that PI would have a fairly comprehensive record of international agreements. I think that Sec. Bodman asked for a comprehensive review of all of our international agreements. If PI has such an exercise underway, please let us know if we should exclude them from what we are compiling.

Eric

U.S. DOE - Office of International Science and Technology Cooperation

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Country: Argentina							
7/6/1995		Completed	Statement of Intent	False		Energy Efficiency and Renewable Energy	Renewable Energy & Energy Efficiency Technologies
Title: <i>Joint Statement of Intent between the Department of Energy of the United States of America and the Energy Secretariat of the Argentine Republic on Renewable Energy and Energy Efficiency Technologies</i>							
Comment: Enforcing the intent of exchanging experience and views on opportunities for the appropriate utilization of renewable energy and energy efficiency technologies and in fostering collaboration.							
8/1/1996	8/1/2001	In Force	Primary DOE	True		Energy Research and Development	Energy Technology Cooperation
Title: <i>Specific Arrangement between the Department of Energy of the United States of America and the Public Works and Services Secretariat of the Argentine Republic in the Area of Energy Technology Cooperation</i>							
Comment: Energy Forecasting meeting was hosted by FE in Oct. of 97. Seminar on New Technologies for the Energy Sector was held in Buenos Aires in Dec 98. EERE has work on energy efficiency and renewable projects started under a statement of intent which was a precursor to this agreement. In Dec of 97 four priority areas of work were identified - energy efficiency, energy and environment, energy planning, and renewable energy by then Secretaries of Energy.							
10/16/1997	10/16/2002	In Force	Primary DOE	True		Arms Control and Nonproliferation	Nuclear Technologies
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the National Atomic Energy Commission of the Argentine Republic for Technical Exchange and Cooperation in the area of Peaceful Uses of Nuclear Energy</i>							
Comment: Expanded sister lab arrangement supporting Article IV of the NPT. Existing annexes cover work in Molybdenum-99 production for LEU, boron neutron capture therapy, decontamination and decommissioning, and LEU advanced fuels.							
4/18/1994	4/18/2004	In Force	Primary DOE	True		Arms Control and Nonproliferation	International Safeguards Applications
Title: <i>Agreement between the United States Department of Energy and the National Atomic Energy Commission of Argentina Concerning Research and Development in Nuclear Material Control, Accountancy, Verification, Physical Protection, and Advanced Containment and Surveillance Technology for International Safeguards Applications</i>							
Comment: Cooperate in research, development, testing, and evaluation of technology, equipment and procedures in order to improve nuclear material control, accountancy, verification, physical protection and advanced containment and surveillance technologies for international safeguards applications.							
5/29/1996	5/29/2006	In Force	Primary DOE	True		Environmental Restoration and Waste Management	Radioactive and Mixed Waste Management
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the National Atomic Energy Commission of the Argentine Republic for Technical Exchange and Cooperation in the Area of Radioactive and Mixed Waste Management</i>							
Comment: Study radioactive and mixed waste management activities in such areas as: preparation and packaging; decontamination and decommissioning; surface and subsurface storage; characterization of geologic formations; disposal in geologic formations, etc.							
4/13/1998	10/16/2002	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Annex 1 - LEU Moly-99 production
Title: <i>Project Annex 1 Cooperation in the Field of Molybdenum-99 Production from Low-Enriched Uranium</i>							
Comment: In force as long as the Implementing Arrangement. Action sheets are under development.							
4/13/1998	10/16/2002	In Force	Intergovernmental	True	Primary DOE	Arms Control and Nonproliferation	Annex 2 - Boron Neutron Capture Therapy
Title: <i>Project Annex 2 Cooperation in the Area of Boron Neutron Capture Therapy</i>							
Comment: In force as long as the Implementing Arrangement. Expert visits are underway.							
4/13/1998	10/16/2002	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Annex 3 - D&D of Nuclear Facilities
Title: <i>Project Annex 3 Cooperation in the Field of Decontamination and Decommissioning of Nuclear Facilities</i>							
Comment: In force as long as the Implementing Arrangement. Workshop was successfully held in fall of 98 at ANL.							
2/8/1999	2/8/2003	In Force	Tertiary DOE	False	Secondary DOE	Nuclear Energy	Action Sheet 1 - Project Annex 1
Title: <i>Action Sheet 1 pursuant to Project Annex 1 for Cooperation in the Field of Molybdenum-99 Production for Low-Enriched Uranium between the National Atomic Energy Commission of the Argentine Republic and the University of Chicago, as Operator of Argonne National Laboratory</i>							
Comment:							
2/8/1999	2/8/2003	In Force	Tertiary DOE	False	Secondary DOE	Arms Control and Nonproliferation	Action Sheet 1 Annex 4, Dart Code Development
Title: <i>Action Sheet 1 Pursuant to Project Annex 4 for Cooperation in the Field of Low Enriched Uranium Advanced Fuels between the National Atomic Energy Commission of the Argentine Republic (CNEA) and the University of Chicago, as Operator of Argonne National Laboratory</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment:							
8/18/1998	10/16/2002	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Annex 4 - Advanced Fuels
Title: <i>Project Annex 4 Cooperation in Field of Low Enriched Uranium Advanced Fuels</i>							
Comment: Remains in force as long as the Implement Arrangement. Action sheets are under development.							
8/11/1998		Completed	Tertiary DOE	False	Secondary DOE	Arms Control and Nonproliferation	Action Sheet 1
Title: <i>Action Sheet 1 - Training Course on Decontamination and Decommissioning</i>							
Comment: Course was held at ANL in the fall of 1998.							
8/11/1998		In Force	Tertiary DOE	False	Intergovernmental	Arms Control and Nonproliferation	Action Sheet 1
Title: <i>Action Sheet 1 Pursuant to Project Annex 2 Cooperation in the Field of Boron Neutron Capture Therapy</i>							
Comment: Technical exchange visits.							
Country: Australia							
6/20/1980	12/31/1985	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Information
Title: <i>Solar Information</i>							
Comment: Description not available in History							
4/7/1987	12/31/1987	Expired	Primary DOE	False		Civilian Radioactive Waste Management	Aerial Radiological Survey
Title: <i>Agreement between the United States Department of Energy (hereinafter referred to as DOE) and the Australian Atomic Energy Commission (hereinafter referred to as AAEC) its successors and assigns</i>							
Comment: Description not available in History							
4/11/1988	4/11/1998	Expired	Primary DOE	False		Energy Research and Development	Energy R&D
Title: <i>Memorandum of understanding between the U.S. Department of Energy and the Department of Primary Industries and Energy of the Commonwealth of Australia on collaboration in energy research and development</i>							
Comment: Establishing wider cooperation in the areas of research and development. VISITS AND ASSIGNMENTS: Not Specifically Mentioned DURATION: To Be Determined DOE/HQ CONTACT: Billy D. Hill, IE-12, (202) 586-5906; FTS: 896-5906							
10/1/1992	10/1/1997	Expired	Primary DOE	True		Arms Control and Nonproliferation	Nuclear Material Control Safeguards Application
Title: <i>Agreement between the United States Department of Energy and the Australian Safeguards Office Concerning Research and Development in Nuclear Material Control, Accountancy, Verification, Physical Protection, and Advanced Containment and Surveillance Technologies for International Safeguards Applications</i>							
Comment: To be continued under a new agreement currently in negotiations, and likely to be concluded by Aug 1998							
11/4/1969	12/31/1972	Expired	Primary DOE	False		Nuclear Energy	Exchange Nuclear S&T Information
Title: <i>Memorandum of Understanding between the United States Atomic Energy Commission and the Australian Atomic Energy Commission for Cooperation in the Exchange Nuclear Science and Technology Information</i>							
Comment:							
6/23/1978	12/31/1985	Expired	Primary DOE	False		Fossil Energy	Coal R&D
Title: <i>Memorandum of Understanding for Exchange of Information concerning Coal Conversion, Extraction and Processing between the U.S. Department of Energy and the Australian Department of National Development</i>							
Comment: Description not available in History							
6/10/1988	4/11/1998	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Alternative Fuels
Title: <i>Program Arrangement between the Department of Energy of the United States of America and the Department of Primary Industries and Energy of Australia on the Exchange of Information Concerning Alternative Fuels</i>							
Comment: Establish framework for cooperation for the timely exchange of information on alternative fuels, particularly transport fuels, with emphasis on demonstration of flexible-fueled vehicles (FFV), and methanol and natural gas fueled gasoline and diesel engines.							
6/10/1988	12/31/1989	Expired	Secondary DOE	False	Primary DOE	Information and/or Personnel Exchange	Exchange of Information
Title: <i>Letter of Intent between the Department of Energy of the United States of America and the Department of Primary Industries and Energy of Australia</i>							
Comment: Description not available in History							
1/13/1989	4/11/1998	Expired	Secondary DOE	False	Primary DOE	Information and/or Personnel Exchange	Research-in-Progress

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Program arrangement between the U.S. Department of Energy and Department of Primary Industries and Energy of Australia on the exchange of information concerning research-in-progress</i> Comment: Establish an exchange of energy Research-In-Progress information to complement respective energy R&D activities. VISITS AND ASSIGNMENTS: Not Specifically Mentioned/Feasible Under Umbrella DURATION: To Be Determined DOE/HQ CONTACT: Dora Moneyhun, OSTI, FTS: 626-1178							
5/11/1989	4/11/1998	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Oil Shale Research
Title: <i>Program arrangement between the U.S. Department of Energy and Department of Primary Industries and Energy of Australia on the exchange of information concerning research-in-progress</i> Comment: This project agreement shall focus on the following 4 areas of oil shale research and development: (a) oil loss mechanism (especially coking and cracking; (b) mineral reactions and their relationships to air pollution issues; (c) mining studies; and (d) systems analysis. VISITS AND ASSIGNMENTS: Yes DURATION: To Be Determined DOE/HQ CONTACT: Marvin Singer, FE-30, (202) 586-1577; FTS: 896-1577							
5/12/1994	4/11/1998	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Bio-Electromagnetic Research
Title: <i>Program Arrangement between the Department of Energy of the United States of American and the Department of Primary Industries and Energy of Australia on the Exchange of Information Concerning Bio-Electromagnetic Research</i> Comment: Establish a framework for cooperation, through an exchange of information, on bio-electromagnetic research.							
9/15/1998	9/14/2008	In Force	Primary DOE	True		Arms Control and Nonproliferation	Safeguards Arrangement
Title: <i>Arrangement between the United States Department of Energy and the Australian Safeguards and Nonproliferation Office Concerning Research and Development in Nuclear material Control Accountancy, Verification, Physical Protection, Advance Containment and Surveillance Technologies for International Safeguards</i> Comment:							
11/10/2003	11/10/2008	In Force	Primary DOE	True			Cooperation in the Energy Sector
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Department of Industry, Tourism and Resources of the Commonwealth of Australia on Cooperation in the Energy Sector</i> Comment:							
Country: Austria							
9/18/1994		In Force	Primary DOE	False		Energy Efficiency and Renewable Energy	EE/Conservation and Climate Change
Title: <i>Memorandum of Understanding on Cooperation in Environmental Aspects of Energy Policy and the Protection of Global Climate</i> Comment: Cooperate in areas of sufficient growth of energy supplies; energy efficiency and conservation measures and protection of the biosphere (climate change).							
Country: Bangladesh							
2/11/1999	2/11/2004	In Force	Primary DOE	False		Information and/or Personnel Exchange	Exchange of Energy Information
Title: <i>Arrangement between the Department of Energy of the United States of America and the Ministry of Energy and Mineral Resources, Government of the People's Republic of Bangladesh for Exchange of Energy Information</i> Comment: EIA will work with an agency designated by MEOMR to establish a reasonably balanced exchange of energy information.							
12/15/1998		In Force	Statement of Intent	False		Energy Research and Development	SOI in Enregy Cooperation
Title: <i>Joint Statement of Cooperation in Energy</i> Comment:							
Country: Belgium							
7/1/1981	1/19/1994	Expired	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: <i>Agreement between the U.S. Department of Energy and the Belgian Centre D'etude De L'energie Nucleaire Studiecentrum Voor Kernenergie in the field of radioactive waste management</i> Comment:							
Country: Botswana							
12/15/2000		In Force	Statement of Intent	True		Fossil Energy	Cooperation in the Field of Fossil Energy Technology

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Statement of Intent Between The Department of Energy of the United States of America and The Ministry of Minerals, Energy and Water Affairs of the Republic of Botswana for Cooperation in the Field of Fossil Energy Technology</i> Comment:							
Country: Brazil							
6/29/1992		Completed	Statement of Intent	False		Energy Efficiency and Renewable Energy	Solar Energy Based Rural Electrification Program
Title: <i>Protocol of Intent between United States Department of Energy and the State of Ceara, Federative Republic of Brazil to Cooperate in the Establishment of a Solar Energy Based Rural Electrification Program</i> Comment: Facilitate joint activities related to solar energy based technologies, including lighting systems in the Jericoacoara Model Village and elsewhere in the Brazilian State of Ceara; training of personnel of such systems and equipment; etc.							
9/30/1996		In Force	Statement of Intent	False		Fossil Energy	Clean Coal Technologies
Title: <i>Joint Statement of Intent on Clean Coal Technologies between the Department of Energy of the United States of America and the State of Rio Grande do Sul and the State of Santa Catarina, and the Sindicato Nacional da Industria da Extracao do Carvao, Eletrabras, and the Ministry of Mines and Energy of the Federal Republic of Brazil</i> Comment: Intention to cooperate between DOE, the State of Rio Grande do Sul, the State of Santa Catarina, The Sindicato Nacional da Industria da Extracao do Carvao, Electrobras, and the Ministry of Mines and Energy of Brazil in clean coal technologies.							
5/26/1984		Expired	Primary DOE	False		Fossil Energy	Coal Technology
Title: <i>Memorandum of Understanding for the Development of Technology Utilizing the Site of the Triunfo Coal Deposits in Rio Grande do Sul Between Companhia Auxiliar de Empresas Electricas Brasileiras-CAEEB Branch of the Ministry of Mines and Energy Government of the Federative Republic of Brazil and the Department of Energy-DOE United States of America</i> Comment: Feasibility of a suitable site with a 4 meter seam of 55% ash coal near Porto Alegre, Rio Grande do Sul.							
1/21/1985	1/31/1990	Expired	Primary DOE	False		Fossil Energy	Underground Coal Gasification
Title: <i>Agreement for the Exchange of Technical Information and Cooperation in the Field of Underground Coal Gasification between the United States Department of Energy and Companhia Auxiliar de Empresas Eletricas Brasileiras</i> Comment:							
10/14/1997	10/14/2002	In Force	Primary DOE	True		Energy Research and Development	Energy Technology
Title: <i>Implementing Arrangement between the United States of America and the Federative Republic of Brazil for Cooperation in the Area of Energy Technology</i> Comment: Umbrella Agreement							
4/18/1994	4/18/2004	In Force	Primary DOE	True		Arms Control and Nonproliferation	International Safeguards Applications
Title: <i>Agreement between the United States Department of Energy and the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials Concerning Research and Development in Nuclear Material Control, Accountancy, Verification, and Advanced Containment and Surveillance Technologies for International Safeguards Applications</i> Comment:							
9/19/1995	9/19/2000	In Force	Primary DOE	True		Arms Control and Nonproliferation	International Safeguards Applications
Title: <i>Agreement between the United States Department of Energy and the National Nuclear Energy Commission of Brazil Concerning Research and Development in Nuclear Material Control, Accountancy, Verification, and Physical Protection, and Advanced Containment and Surveillance Technologies for International Safeguards Applications</i> Comment:							
10/14/1997	10/14/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 1 - Coal and Power Systems
Title: <i>Annex I to the Implementing Arrangement between the United States of America and the Federative Republic of Brazil for Cooperation in the Area of Energy Technology in the Field of Coal and Power Systems</i> Comment: Exchange experience and views on clean coal technologies, advanced power systems, advanced coal preparation, and environmental monitoring technologies and standards.							
10/14/1997	10/14/2002	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 2 - Renewable Energy
Title: <i>Annex II to the Implementing Arrangement between the United States of America and the Federative Republic of Brazil for Cooperation in the Area of Energy Technology in the Field of Renewable Energy</i> Comment: Collaboration on renewables resource assessment, integration in electric utility, policy analysis, and identification of opportunities for renewable energy in Brazil.							
10/14/1997	10/14/2002	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 3- Energy Efficiency
Title: <i>Annex III - to the Implementing Arrangement between the United States of America and the Federative Republic of Brazil for Cooperation in the Area of Energy Technology in the Field of Energy Efficiency</i> Comment: Collaboration to increase energy, efficiency, promote global environmental protection, and stimulate the market in Brazil for energy efficiency goods and services.							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
6/29/1992		Completed	Statement of Intent	False		Energy Efficiency and Renewable Energy	Solar Energy Based Rural Electrification Program
Title: <i>Protocol of Intent between the United States Department of Energy and the State of Pernambuco, Federative Republic of Brazil to Cooperate in the Establishment of a Solar Energy Based Rural Electrical Program</i>							
Comment: Facilitate joint activities related to solar energy based technologies, i.e., 1000 residential lighting systems in the Sertao de Sao Francisco region and elsewhere in the Brazilian State of Pernambuco; training of systems and equipment, etc.							
9/17/2001	9/17/2006	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Extension - Agreement bet. DOE and the National Nuclear Energy Commission
Title: <i>Agreement to Extend the Agreement between the Department of Energy of the United States and the National Nuclear Energy Commission of Brazil Concerning Research and Development in Nuclear Material Control, Accountancy, Verification, Physical Protection, and Advanced Containment and Surveillance Technologies for International Safeguards Applications</i>							
Comment: 5- year extension							
6/20/2003	6/20/2008	In Force	Primary DOE	True		Science and Technology	Cooperation in Nuclear Energy
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Federative Republic of Brazil Concerning Cooperation in Nuclear Energy</i>							
Comment:							
4/19/2004		In Force	Primary DOE	True			MOU between DOE and the Ministry of Mines Energy of the Federative Republic of Brazil
Title: <i>Memorandum of Cooperation Between the Department of Energy of the United States of America and the Ministry of Mines and Energy of the Federative Republic of Brazil for Cooperation in Hydrogen Energy Technology</i>							
Comment:							
4/19/2004		In Force	Primary DOE	True			Report to Secretary Abraham and Minister Rousseff
Title: <i>Report to Secretary Spencer Abraham and Minister Dilma Rousseff on the status of U.S.- Brazil Cooperation in Energy</i>							
Comment:							
Country: Canada							
12/4/1986	12/4/1996	Expired	Broad	False		Energy Research and Development	Energy R&D
Title: <i>Memorandum of understanding between the Department of Energy, Mines and Resources of Canada and the U.S. Department of Energy on collaboration in energy research and development</i>							
Comment: Establishing wider cooperation in the areas of research and development.							
7/21/1995		In Force	Statement of Intent	False	Broad	Energy Efficiency and Renewable Energy	Building Energy Simulation Tools
Title: <i>Statement of Intent between the United States Department of Energy and the Department of Natural Resources of Canada on Building Energy Simulation Tools</i>							
Comment: Collaborate in building energy simulation R&D and information dissemination.							
8/25/1982	8/25/1996	Expired	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: <i>Agreement between the Department of Energy of the United States of America (of the first part) and Atomic Energy of Canada Limited - l'Energie Atomique du Canada Limitee (of the second part) Respecting "Cooperation in Radioactive Waste Management"</i>							
Comment: Study of mutually agreed topics associated with the management of radioactive waste and related activities of the nuclear fuel cycle, i.e., preparation and packaging, decontamination and decommissioning; surface and subsurface storage, etc.							
8/23/1983	9/30/1984	Expired	Primary DOE	True		Environmental/Pollution Control	Airborne Pollutants
Title: <i>Memorandum of Understanding for Cooperation in the Cross Appalachian Tracer Experiment between the Department of Energy of the United States, the United States Environmental Protection Agency, the United States National Oceanic and Atmospheric Administration, and the Atmospheric Environment Service of Environment Canada</i>							
Comment: Conduct Series of Joint Meteorological Experiments to verify theoretical computer codes developed to establish meteorological aspects of long range airborne pollutants							
11/19/1987	11/19/1992	Expired	Primary DOE	True		Fusion Energy	Magnetic Fusion
Title: <i>Memorandum of understanding between the U.S. Department of Energy and the Atomic Energy of Canada Limited - L'energie Atomique Du Canada Limited for cooperation in the field of magnetic fusion energy</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Finding solutions to mutually agreed upon problems associated with the development of magnetic fusion as a source of energy in areas as: fusion fuel handling and processing technology; fusion specific remote maintenance technology; radiation damage of fusion reactor materials; fusion blanket technology; specific areas of confinement physics and other plasma phenomena in toroidal confinement devices.							
3/18/1998	3/18/2008	In Force	Primary DOE	False		Energy Research and Development	Energy R&D
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Department of Natural Resources of Canada on Collaboration in Energy Research and Development</i>							
Comment: Establish wider areas of cooperation for mutual benefit							
9/8/1976	12/31/1980	Expired	Primary DOE	False		Nuclear Energy	Radioactive Waste Mgt. and Heavy Water Reactors
Title: <i>Memorandum of Understanding--Arrangement between the U.S. Energy Research & Development Administration and Atomic Energy of Canada Limited Relating to Information in the Nuclear Field</i>							
Comment: Exchange of information related to management of radioactive waste and systems analysis of heavy water power reactors							
12/24/1986	12/4/1996	Expired	Primary DOE	True	Broad	Information and/or Personnel Exchange	IPR/Information/Personnel Exchange
Title: <i>Implementing arrangement no. 1 between the U.S. Department of Energy and the Department of Energy, Mines and Resources of Canada on collaboration in joint planning and exchange of information and personnel in energy research development</i>							
Comment: Objective is to implement collaboration in research and development activities pertaining to energy technologies by providing Intellectual Property Rights and other legal provisions including exchange of personnel.							
2/16/1988	12/4/1996	Expired	Primary DOE	True	Broad	Fossil Energy	Natural Gas Hydrates
Title: <i>Implementing Arrangement #2 between the United States Department of Energy and the Ministry of Mines and Resources of in the area of Natural Gas Hydrates Research and Development</i>							
Comment: Establish a framework for collaboration in the field of natural gas hydrates research and development.							
2/14/1989	12/31/1996	Expired	Primary DOE	True	Broad	Fossil Energy	Coal/Heavy Oil Coprocessing
Title: <i>U.S. Department of Energy - Canada implementing arrangement in the area of coal/heavy oil coprocessing</i>							
Comment: Establish a framework for collaboration in the field of coal/heavy oil coprocessing in such technical areas as: (1) feed characterization and preparation; (2) catalyst development and testing; (3) product characterization and upgrading; (4) residue characterization processing and/or utilization; (5) economic and engineering evaluation; and (6) process R&D.							
9/7/1990	12/31/1994	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	In-Situ Combustion With Steam and Oxygen
Title: <i>U.S. Department of Energy - Department of Energy, Mines and Resources of Canada agreement on operation and control of in-situ combustion with steam and oxygen</i>							
Comment: Joint experiments to evaluate in-situ combustion processes enhanced by steam and oxygen							
6/4/1979	12/31/1994	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Resource Characterization of Tar Sands
Title: <i>U.S. Department of Energy - Department of Energy, Mines and Resources of Canada agreement - Annex 1: Resource characterization of oil sands (tar sands)</i>							
Comment: Joint work between DOE, EMR and Alberta and Saskatchewan in Resource Characterization of Oil							
2/1/2000	2/1/2005	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	DOE/NRCAN Fuel Cells Implementing Arrangement
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Department of Natural resources Canada for Cooperation in the area of Fuel Cells</i>							
Comment: Automatic Renewal after 5 years with written agreement of the participants.							
2/1/2000	2/1/2005	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	DOE/NRCAN Fossil Fuels Implementing Arrangement
Title: <i>Implementing Arrangement between Department of Energy of the United States of America and the Department of Natural Resources Canada for Cooperation in the area of Fossil Fuels</i>							
Comment: Automatic renewal for 5 years with written agreement of the participants.							
11/18/1994		In Force	Statement of Intent	False	Broad	Energy Efficiency and Renewable Energy	Biennial Biomass Conf. of the Americas
Title: <i>Statement of Intent between the United States Department of Energy and the Department of Mines and Resources on Biennial Biomass Conference of Americas</i>							
Comment: Collaborate in a biennial conference to present the latest results in biomass energy research and development.							
3/18/1986	6/22/1988	Terminated	Secondary DOE	True	Primary DOE	Civilian Radioactive Waste Management	Radioactive Waste Management--Underground Lab
Title: <i>Subsidiary Agreement No. 1 between Atomic Energy of Canada Limited and the United States Department of Energy for a Radioactive Waste Management Technical Cooperation Program</i>							
Comment: Joint cooperation for the disposal of high level radioactive waste							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
9/30/1991	11/1/1995	Terminated	Secondary DOE	True	Primary DOE	Civilian Radioactive Waste Management	Subsidiary Agreement #2 Technical Coop Program
Title: <i>Subsidiary agreement no. 2 between Atomic Energy of Canada Limited and the U.S. Department of Energy for a radioactive waste management technical cooperation program</i> Comment: INITIATION OF TECHNICAL TASKS (8)							
9/13/1982	12/31/1994	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Steam Flooding w/Additive in Tar Sands
Title: <i>"Steam Flooding with Additives in a Tar Sand Deposit" Implementing Agreement II Under the Memorandum of Understanding for Cooperation in the Research and Development of Tar Sands (Oil Sands) and Heavy Oil</i> Comment: Conduct joint experimentation program to evaluate in-situ steam processes enhanced by various additives for recovery of oil from Canadian and US tar sands and heavy oils							
9/13/1982	12/31/1994	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Information Dissemination in Tar Sands
Title: <i>"Dissemination of Information" Implementing Agreement III Under the Memorandum of Understanding for Cooperation in the Research and Development of Tar Sands (Oil Sands) and Heavy Oil</i> Comment: Exchange of information on tar sands and heavy oil							
2/28/1986	12/31/1994	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Monitoring Frontal Movements in Thermal Recovery
Title: <i>Monitoring Frontal Movements in Thermal Recovery Implementing Agreement IV Under the Memorandum of Understanding for Cooperation in the Research and Development of Tar Sands (Oil Sands) and Heavy Oil</i> Comment: Conduct experiments to evaluate geophysical techniques for deterring spatial shape and location of thermal fronts in steamflooding							
11/18/1994		In Force	Statement of Intent	False	Broad	Energy Efficiency and Renewable Energy	Biennial Biomass Conf. of the Americas
Title: <i>Statement of Intent between the United States Department of Energy and the Department of Mines and Resources on Biennial Biomass Conference of Americas</i> Comment: Collaborate in a biennial conference to present the latest results in biomass energy research and development.							
10/22/2001	10/22/2006	In Force	Primary DOE	True		Energy Efficiency and Renewable Energy	Arrangement between DOE and Dept. of Natural Resources Canada
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Department of Natural Resources Canada for Cooperation in the areas of Microgeneration and Community Energy Systems</i> Comment:							
5/10/2000	5/10/2005	In Force	Primary DOE	True		Science and Technology	Cooperation in the area of Bioenergy
Title: <i>Implementing Arrangement between the United States Department of Energy and the Department of Natural Resources of Canada for Cooperation in the area of Bioenergy</i> Comment:							
6/17/2003	6/17/2008	In Force	Primary DOE	True		Nuclear Energy	Nuclear Energy Research
Title: <i>Implementing Arrangement between the United States Department of Energy and the Department of Natural Resources of Canada and Atomic Energy of Canada Limited for Collaboration in the area of Nuclear Energy Research</i> Comment: Foreign Party for Atomic Energy of Canada Limited signed this agreement also on June 17, 2003.							
6/4/1979	12/31/1994	Expired	Primary DOE	True		Fossil Energy	Tar Sands and Heavy Oil
Title: <i>U.S. Department of Energy - Department of Energy, Mines and Resources of Canada memorandum of understanding for cooperation in the research and development of tar sands (oil sands) and heavy oil</i> Comment: Establish Framework for cooperation in tar sands and heavy oil extraction, processing and related technology							
4/28/2005	9/28/2009	In Force	edit test	True		Fossil Energy	
Title: <i>Amendment to Project Annex I - Weyburn CO2 Sequestration Project Under the Implementing Agreement Between The Department of Energy of the United States of America and The Department of Natural Resources Canada for Cooperation in the Area of Fossil Fuels</i> Comment:							
9/11/2002	9/11/2007	In Force	Tertiary DOE	True	Secondary DOE	Fossil Energy	Project Annex I - Weyburn CO2 Sequestration Project
Title: <i>Project Annex I - Weyburn CO2 Sequestration Project under the Implementing Arrangement Between the Department of Energy of the United States of America and the Department of Natural Resources Canada for Cooperation in the Area of Fossil Fuels</i> Comment:							

Country: Chile

6/25/1990	Completed	Statement of Intent	False	Fossil Energy	Deployment of Clean Coal Technologies
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All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Protocol of Intent between U.S. Department of Energy and the National Energy Commission of Chile to cooperate in the development of clean coal technologies</i> Comment: Intention to cooperate in a manner which will facilitate joint government activities related to deployment of clean coal technologies.							
12/13/1994		Completed	Statement of Intent	False		Energy Efficiency and Renewable Energy	Renewable and Energy Efficiency Technologies
Title: <i>Joint Statement of Intent on Renewable Energy and Energy Efficiency technologies between the Department of Energy of the United States of America and the Comision Nacional de Energia of the Republic of Chile</i> Comment: Intent to cooperate in a manner to facilitate joint activities related to renewable energy and energy efficiency technologies in an environmentally and economically responsible way.							
4/18/1998	4/12/2000	In Force	Statement of Intent	False		Energy Efficiency and Renewable Energy	Natural Gas-Powered Bus Pilot Project
Title: <i>Statement of Intent Concerning the Natural Gas-Powered Bus Pilot Project in the Metropolitan Region of Chile</i> Comment: Signed in Santiago, Chile, during the SOAI							
3/7/1995		In Force	Statement of Intent	False		Energy Efficiency and Renewable Energy	Control Emissions of Greenhouse Gases
Title: <i>Statement of Intent for Sustainable Development Cooperation and Joint Implementation of Measures to Control Emissions of Greenhouse Gases Between the Department of Energy of the United States of America and the National Energy Commission of Chile</i> Comment: Intent to facilitate the development of joint implementation projects in order to encourage: market deployment of greenhouse gas-reducing technologies, including energy efficiency and renewable energy technologies; education and training programs, etc.							
Country: China							
1/31/1979	4/30/2001	In Force	Intergovernmental	True		Science and Technology	Gov't to Gov't S&T
Title: <i>Agreement between the Government of United States of America and the Government of People's Republic of China on Cooperation in Science and Technology</i> Comment: Need copy of agreement							
8/28/1979	8/24/1984	Expired	Intergovernmental	True		Energy Efficiency and Renewable Energy	Hydroelectric Power
Title: <i>Protocol between the Government of the United States of America and the Government of the People's Republic of China on Cooperation in Hydroelectric Power and Related Water Resources</i> Comment:							
10/29/1997		In Force	Intergovernmental	False		Energy and Environment	Energy and Environment Cooperation Initiative
Title: <i>United States of American and People's Republic of China Energy and Environment Cooperation Initiative</i> Comment:							
2/23/1995		Completed	Statement of Intent	False		Energy Efficiency and Renewable Energy	Renewable Energy
Title: <i>Letter of Intent between the Department of Energy of the United States of America and the Ministry of Agriculture of the People's Republic of China to Develop Cooperative Activities in the Areas of Renewable Energy Under the Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization</i> Comment: Intent to develop an annex under the Protocol to initiate cooperative activities in the area of renewable energy development for rural areas in China.							
2/23/1995		Superseded	Statement of Intent	False		Information and/or Personnel Exchange	Energy Information Exchange
Title: <i>Statement of Intent between the Department of Energy of the United States of America and the State Statistical Bureau of the People's Republic of China on an Energy Information Exchange</i> Comment: Protocol for the Exchange of Energy Information was signed with the National Bureau of Statistics on January 12, 2000. See ID - 522							
2/23/1995		In Force	Statement of Intent	False		Nuclear Energy	Research Reactor Fuel
Title: <i>Statement of Intent between the Department of Energy of the United States of America and the China Atomic Energy Authority of the People's Republic of China on Research Reactor Fuel</i> Comment: Exchange information and views on opportunities for the conversion of research reactors to the use of low enriched uranium.							
10/29/1997	6/29/1998	Completed	Statement of Intent	False		Nuclear Energy	Peaceful Uses of Nuclear Technologies
Title: <i>Agreement of Intent on Cooperation Concerning Peaceful Uses of Nuclear Technology Between the Department of Energy of the United States of America and the State Planning Commission of the People's Republic of China</i> Comment: Agreement on Nuclear Technologies was signed in Beijing on June 29, 1998.							
2/23/1995		In Force	Primary DOE	False		Bilateral Energy Consultations	Bilateral Energy Consultations
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the State Planning Commission of the People's Republic of China on Bilateral Energy Consultations</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Desire to conduct bilateral energy consultations by forming a Chinese-American Ministerial Working Group to enhance the understanding of energy issues and promote the exchange of information on energy policies, programs and technologies.							
5/11/1983	4/30/2001	In Force	Primary DOE	True	Intergovernmental	Fusion Energy	Protocol on Nuclear Physics and Magnetic Fusion
Title: <i>Protocol between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China on Cooperation in the Fields of Nuclear Physics and Controlled Magnetic Fusion Research</i>							
Comment: Cooperate in promoting each other's program in Nuclear Physics and Controlled Magnetic Fusion. Co-terminates with umbrella S&T agreement.							
4/16/1985	4/30/2001	Superseded	Primary DOE	True	Intergovernmental	Fossil Energy	Fossil Energy R&D
Title: <i>The Protocol on Cooperation in the Field of Fossil Energy Research and Development between the Department of Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China</i>							
Comment: Replaced by the Protocol in Fossil Energy signed on April 20, 2000. Annex will be continued subject to the new Protocol following approval by the Permanent Coordinating Group.							
10/13/1987	4/30/2001	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 5 - Atmospheric Fluidized Bed Combustion Info Exchange
Title: <i>Annex V to protocol on cooperation in field of fossil energy R&D between U.S. Department of Energy - Ministry of Coal Industry of the People's Republic of China in the area of atmospheric fluidized bed (AFB) combustion information exchange</i>							
Comment: EXCHANGE OF REPORTS AND DATA. Co-terminates with Protocol							
4/12/1994	4/12/1999	Completed	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 9 - Clean Coal Technology
Title: <i>Annex IX to the Protocol for Cooperation in the Field of Fossil Energy Research and Development between the Department of Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China for Cooperation between the United States Department of Energy and the State Science and Technology Commission of the People's Republic of China in the Area of Clean Coal Technology Utilization</i>							
Comment:							
6/27/1994	1/13/1997	Terminated	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 10 - Coal-Fired MagnetoHydroDynamic Power Generation
Title: <i>Annex X to the Protocol for Cooperation in the Field of Fossil Energy Research and Development between the Department of Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China for Cooperation between the United States Department of Energy and the Institute of Electrical Engineering of the Academia Sinica in the Area of Coal-Fired Magnetohydrodynamic Power Generation</i>							
Comment: Define the responsibilities in a cooperative undertaking relating to the proposal to install and operate a USDOE-owned U-25 superconducting magnet for use in a coal-fired MHD combined cycle test facility in Beijing for experimentation in converting the energy of coal combustion gases directly into electricity.							
2/23/1995	2/23/2000	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 11 - Coal Bed Methane Recovery and Utilization
Title: <i>Annex XI to the Protocol for Cooperation in the Field of Fossil Energy Research and Development between the Department Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China for Cooperation in the Area of Coalbed Methane Recovery and Utilization</i>							
Comment: Promote technological and economic cooperation in coal bed methane recovery and utilization technology in order to make positive contributions toward improving recovery efficiency and utilization of globally significant natural gas energy resources.							
2/23/1995	2/23/2000	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 12 - Regional Climate Research
Title: <i>Annex XII to the Protocol on Cooperation in the Field of Fossil Energy Research and Development between the Department Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China for Cooperation in the Area of Regional Climate Research with the China Meteorological Administration</i>							
Comment: Establish a program of joint R&D and information exchange to document regional climate and climate change, to predict regional climate and climate change and to identify regional impacts of climate change.							
6/27/1995	6/27/2000	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 1 - 100 Counties Renewable Energy
Title: <i>Annex I to the Protocol for Cooperation in the Field of Energy Efficiency and Renewable Energy between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China for Developing Cooperative Activities in the Area of Renewable Energy Under the Hundred Counties Integrated Rural Energy Development Program in China between the Department of Energy of the United States of America and the Ministry of Agriculture of the People's Republic of China</i>							
Comment: Remains in force for five years or until termination of the Protocol, whichever occurs first							
10/25/1996	10/25/2001	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 2 - Wind Energy Development
Title: <i>Wind Energy Development in China Developing Cooperative Activities between the Department of Energy of the United States of America and the Ministry of Electric Power of the People's Republic of China ANNEX II under the Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization between the Department of Energy of the United States of America and the State Science and Technology Commission of the People's Republic of China</i>							
Comment: Remains in force for five years or until termination of the Protocol, whichever occurs first.							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
11/18/1997	11/18/2002	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 5 - Electric Vehicle Development
Title: <i>The Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China for Cooperation in the Field of Energy Efficiency and Renewable Energy Technology Development and Utilization Annex V Electric Vehicle and Hybrid-Electric Vehicle Development</i>							
Comment: Remains in force for five years or until termination of the Protocol, whichever occurs first.							
2/23/1995	2/22/2005	In Force	Primary DOE	True	Intergovernmental	Energy Efficiency and Renewable Energy	Protocol for Energy Efficiency and Renewable Energy
Title: <i>Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China</i>							
Comment: Desire to conduct bilateral energy consultations by forming a Chinese-American Ministerial Working Group to enhance the understanding of energy issues and promote the exchange of information on energy policies, programs and technologies.							
1/31/1979	4/30/2001	In Force	Primary DOE	True	Intergovernmental	High Energy Physics	High Energy Physics
Title: <i>Implementing Accord between the U.S. Department of Energy and the State Scientific and Technological Commission of the People's Republic of China on Cooperation in the Field of High Energy Physics.</i>							
Comment: Co-Terminates with the S&T Agreement							
11/4/1992	11/4/2002	In Force	Primary DOE	True	Intergovernmental	High Energy Physics	Superconducting Super Collider
Title: <i>Implementing Accord between the U.S. Department of Energy and the Chinese Academy of Sciences for a Program of Collaboration on the Superconducting Super Collider</i>							
Comment:							
3/15/1980	8/28/1981	Expired	Primary DOE	True	Intergovernmental	Energy Efficiency and Renewable Energy	Hydropower
Title: <i>Annex I to the Protocol between the Government of the United States of America and the Government of the People's Republic of China on Cooperation in Hydroelectric Power and Related Water Resources Management</i>							
Comment: Description not available in History							
10/25/1996	10/25/2001	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 3 - Energy Efficiency
Title: <i>Annex III to the Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and utilization between the Department of Energy of the United States of America and the State Science and Technology Commission of the People's Republic of China for Cooperation Between the Department of Energy of the United States of America and the State Planning Commission of the People's Republic of China in the Area of Energy Efficiency</i>							
Comment: Remains in force for five years or until termination of the Protocol, whichever occurs first							
3/13/1986	5/22/1991	Terminated	Secondary DOE	True	Primary DOE	Fusion Energy	Annex 1 - IPR
Title: <i>Annex I to the Protocol on Cooperation in the Fields of Nuclear Physics and Controlled Magnetic Fusion Research between the Department of Energy of the United States of America and the State Science and Technology Commission of the People's Republic of China</i>							
Comment: Replaced by the IPR Annex I of the Gov't to Gov't S&T Agreement signed on May 22, 1991							
4/16/1985	5/22/1991	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Annex 1 - IPR
Title: <i>Annex I to the Protocol on Cooperation in the Field of Fossil Energy Research and Development between the Department of Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China</i>							
Comment: Replaced by the IPR Annex I of the Gov't to Gov't S&T Agreement signed on May 22, 1991.							
9/28/1987	4/30/2001	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 2 - Mine Safety and Health
Title: <i>Annex II to the Protocol on Cooperation in the Field of Fossil Energy Research and Development between the Department of Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China in the Area of Mine Safety and Health</i>							
Comment: Co-terminates with the Protocol							
8/19/1987	4/30/2001	In Force	Secondary DOE	True	Primary DOE	Energy Research and Development	Annex 3 - Atmospheric Trace Gasses
Title: <i>Annex III to the protocol on fossil energy R&D on Cooperation in the field of atmospheric trace gases</i>							
Comment: Co-terminates with the Protocol							
10/13/1987	4/30/2001	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 4 - Coal Preparation & Waste Stream Utilization
Title: <i>Annex IV to protocol on cooperation in field of fossil energy R&D between U.S. Department of Energy & Ministry of Coal Industry of the People's Republic of China in the area of coal preparation and waste stream utilization</i>							
Comment: TASKS PLANNED WERE COMPLETED IN 10/90. DISCUSSIONS ON POSSIBLE FURTHER COOPERATION IN COAL PREP. Co-terminates with the Protocol							
11/18/1997	11/18/2002	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 6 - Geothermal Production and Use

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Geothermal Production and Use Cooperative Activities between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China Annex VI under The Protocol for cooperation in the Field of Energy Efficiency and renewable Energy Technology Development and Utilization between the Department of Energy of the United States of America and the State Science and Technology Commission of the People's Republic of China</i>							
Comment: Remains in force for five years or until termination of the Protocol, whichever occurs first.							
1/12/2000	1/12/2005	In Force	Primary DOE	True	Intergovernmental	Information and/or Personnel Exchange	Exchange of Energy Information
Title: <i>Protocol for Cooperation Concerning the Exchange of Energy Information between the Department of Energy of the United States of America and the National Bureau of Statistics of the People's Republic of China</i>							
Comment:							
4/20/2000	4/20/2010	In Force	Primary DOE	True	Intergovernmental	Fossil Energy	Fossil Energy Protocol
Title: <i>Protocol for Cooperation in the Field of Fossil Energy Technology Development and Utilization between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China</i>							
Comment: Remains in force for 5 years from date of signature or as long as the Umbrella Agreement (US-China S&T) remains in force, whichever is shorter.							
3/29/1999		In Force	Statement of Intent	False		Energy and Environment	MOU on Clean Energy Projects and Technologies
Title: <i>Memorandum of Understanding Among The State Development Planning Commission of the People's Republic of China, China Development Bank, The United States Department of Energy, and Export Import Bank of the United States Regarding Cooperation on Clean Energy Projects and Technologies</i>							
Comment:							
12/7/2000	12/7/2005	In Force	Secondary DOE	True		Fossil Energy	Annex IV - Energy and Environmental Technologies
Title: <i>Annex IV to the Protocol on Cooperation in the Field of Fossil Energy Technology Development and Utilization between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Peoples's Republic of China for Cooperation in the area of Energy and Environmental Technologies</i>							
Comment:							
11/14/1997	11/14/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 13 - Fossil Fuel Utilization
Title: <i>Annex XIII to the Protocol for Cooperation in the Field of Fossil Energy Research and Development between the Department of Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China in the Area of Fossil Fuel Utilization for Production of Chemicals</i>							
Comment: Co-terminates with Protocol							
7/9/1998		In Force	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Design Criteria for Energy Efficient Building
Title: <i>Statement of Work between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China</i>							
Comment:							
11/14/1997	11/14/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 14 - Bilateral Consultations on Coal Industry
Title: <i>Annex XIV to the Protocol for Cooperation in the field of Fossil Energy Research & Development between the Department of Energy of the United States of America and the Ministry of Coal Industry of the People's Republic of China on Bilateral Consultations and Exchanges on Coal Industry Development and Information</i>							
Comment: Co-terminates with the Protocol							
6/29/1998	6/29/2003	In Force	Primary DOE	True		Nuclear Energy	Nuclear Technologies Agreement
Title: <i>Agreement between the Department of Energy of the United States of America and the State Development Planning Commission of the People's Republic of China on Cooperation Concerning Peaceful Uses of Nuclear Technologies</i>							
Comment: Subject to the Gov't to Gov't Peaceful Uses of Nuclear Energy Agreement signed July 23, 1985.							
6/29/1998	6/29/2003	In Force	Secondary DOE	True	Primary DOE	Nuclear Energy	Annex 1 - IPR
Title: <i>Annex I- Intellectual Property</i>							
Comment: Attached to original agreement.							
11/19/2002	11/19/2007	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex II - Cooperation in the area of Clean Fuels
Title: <i>Annex II to the Protocol on Cooperation in the Field of Fossil Energy Technology Development and Utilization between The Department of Energy of the United States of America and The Ministry of Science and Technology of the People's Republic of China for Cooperation in the Area of Clean Fuels</i>							
Comment:							
7/18/2001		In Force	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Design Criteria for Energy Efficient Building

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Amendment to The Statement of Work of July 9, 1998 between The Department of Energy of the United States of America and The Ministry of Science and Technology of the People's Republic of China</i>							
Comment:							
12/7/2000	12/7/2005	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex III - for Cooperation in the areas of Oil and Gas
Title: <i>Annex III to the Protocol for Cooperation in the Field of Fossil Energy Technology Development and Utilization between the Department of Energy of the United States of America and The Ministry of Science and Technology of the People's Republic of China for Cooperation in the areas of Oil and Gas</i>							
Comment:							
5/11/2000	5/11/2005	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex VII
Title: <i>Renewable Energy Policy and Planning Annex VII Cooperative Activities Between the Department of Energy of the United States of America and the State Development Planning Commission of the People's Republic of China</i>							
Comment:							
2/12/2002	2/12/2007	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex II - The State Power Corporation of China
Title: <i>Agreement to Extend Annex II to the Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization for Cooperative Activities in Wind Development in China between the Department of Energy of the United States of America and the State Power Corporation of China</i>							
Comment:							
2/12/2002	2/12/2007	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex III - State Planning Commission
Title: <i>Agreement to Extend and Amend Annex III to the Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization for Cooperative Activities in Energy Efficiency between The Department of Energy of the United States of America and the State Planning Commission of the People's Republic of China</i>							
Comment:							
2/12/2002	2/12/2007	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex IV - State Economic and Trade Commission
Title: <i>Agreement to Extend and Amend Annex IV to the Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization for Cooperative Activities in Renewable Energy Business Development between the Department of Energy of the United States of America and the State Economic and Trade Commission of the People's Republic of China</i>							
Comment:							
10/29/2003	10/29/2008	In Force	Primary DOE	True			Annex V - Development of Electric-Drive and Fuel Cell Vehicle Technologies
Title: <i>The Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China for Cooperation in the Field of Energy Efficiency and Renewable Energy Technology Development and Utilization - Annex V Development of Electric-Drive and Fuel Cell Vehicle Technologies</i>							
Comment:							
1/12/2004	1/12/2010	In Force	Primary DOE	True		Energy Efficiency and Renewable Energy	Protocol Agreement - Summer Olympic Games in Beijing
Title: <i>Protocol for Cooperation in Clean Energy Technologies for the 2008 Summer Olympic Games in Beijing</i>							
Comment:							
1/12/2004	1/12/2009	In Force	Primary DOE	True		Science and Technology	Statement of Intent between DOE and China
Title: <i>Statement of Intent Between the Department of Energy of the United States of America and the China Atomic Energy Authority of the Peoples's Republic of China Concerning Cooperation in the Field of Peaceful Use of Nuclear Energy and Nuclear Non-Proliferation and Counter-Terrorism</i>							
Comment:							
9/16/2003		In Force	Statement of Intent	False		Nuclear Energy	SOI

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Title: *Statement of Intent between DOE and CAEA*

Comment:

5/23/2004	5/23/2009	In Force	Primary DOE	True		Bilateral Energy Policy Dialogue	MOU bet. DOE and Republic of China on Bilateral Energy
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Title: *Memorandum of Understanding between the Department of Energy of the United States of America and the National Development and Reform Commission of the People's Republic of China on Bilateral Energy Policy Dialogue*

Comment:

10/25/1996	10/25/2001	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 4 - Renewable Energy Business Development
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Title: *Renewable Energy Business Development ANNEX IV Cooperative Activities between the Department of Energy of the United States of America and the State Economic and Trade Commission of the People's Republic of China*

Comment: Remains in force for five years or until termination of the Protocol, whichever occurs first

11/19/2005	11/19/2008	In Force	Primary DOE	True			MOU bet. DOE and China - (GACC) & (AQSIQ)
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Title: *Memorandum of Understanding among the General Administration of Customs, the General Administration of Quality Supervision, Inspection, and Quarantine of the People's Republic of China and the Department of Energy of the United States of America Concerning Cooperation to Prevent the Illicit in Nuclear and other Radioactive Material*

Comment:

4/20/2005	4/20/2010	In Force	Extension	True			Extension for agreement bet. DOE and MOST
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Title: *Agreement to Extend the Protocol for Cooperation in the Field of Fossil Energy Technology Development and Utilization between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China*

Comment:

9/2/2005		In Force	Statement of Intent	False		Arms Control and Nonproliferation	Joint Statement of Intent
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Title: *Joint Statement of Intent by the Department of Energy of the United States of America and the Customs General Administration, the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China Concerning Exploration of Cooperation in Nuclear and other Radioactive Material Detection*

Comment:

9/10/2002		In Force	Statement of Intent	False		Science and Technology	SOI - Clean Energy Technologies
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Title: *Statement of Intent between the Department of Energy of the United States of America and the Municipality of Beijing of the People's Republic of China Concerning Clean Energy Technologies*

Comment:

Country: Costa Rica

5/9/1997	5/9/2002	In Force	Statement of Intent	False		Energy Efficiency and Renewable Energy	Electric Transport
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Title: *Statement of Intent by the Ministry of Environment and Energy of Costa Rica and the Department of Energy of the United States of America for Cooperation in the Field of Electric Transport*

Comment:

6/1/1989		Completed	Primary DOE	True		Fossil Energy	Clean Coal Technologies
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Title: *U.S. Department of Energy - Ministry of Natural Resources, Energy, and Mining of Costa Rica technical cooperation arrangement for deployment of clean coal technologies*

Comment: Enhance energy security through recognition of the way coal and clean coal technologies can contribute to fuel diversity, and the program will also promote increased economic cooperation and opportunities for expanded trade. VISITS: Yes ASSIGNMENTS: No DURATION: To Be Determined DOE/HQ CONTACT: Peter Cover, FE-4, (202) 586-7297; FTS: 896-7297

11/17/1998	11/17/2003	In Force	Primary DOE	False		Arms Control and Nonproliferation	Sister Lab Arrangement
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Title: *Arrangement for information Exchange and Cooperation in the Area of Peaceful Uses of Nuclear Energy between Argonne National Laboratory and Atomic Energy Commission of Costa Rica*

Comment: ACDA led sister lab.

Country: Czech Republic

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
10/22/1991	10/22/2001	In Force	Intergovernmental	True		Science and Technology	Science & Technology
Title: <i>Agreement between the Government of the Czech and Slovak Federal Republic and the Government of the United States of America for Scientific and Technological Cooperation</i>							
Comment: Develop, support and facilitate S&T cooperation between cooperating organizations between the two countries in the areas of basic science, environmental protection, medical sciences and health, agriculture, engineering research, energy, natural resources and their useful utilization, standardization, S&T policy and management.							
Country: Egypt							
7/1/1999	7/1/2004	In Force	Primary DOE	False		Energy Research and Development	Energy Technology Agreement
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Electricity and Energy of the Arab Republic of Egypt for Cooperation in Energy Technology</i>							
Comment:							
2/23/2000	2/23/2005	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 1 - Renewable Energy
Title: <i>Annex I to the Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Electricity and Energy of the Arab Republic of Egypt in the Field of Renewable Energy</i>							
Comment:							
2/23/2000	2/23/2005	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 2 - Fuel Cells
Title: <i>Annex II to the Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Electricity and Energy of the Arab Republic of Egypt for Cooperation in Energy Technology in the Field of Fuel Cells</i>							
Comment:							
Country: Equatorial Guinea							
8/6/2004	8/6/2009	In Force	Primary DOE	False		Science and Technology	MOU bet. DOE and Equatorial Guinea
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Mines, Industry and Energy of the Republic of Equatorial Guinea for Cooperation on Energy Policy, Science and Technology, and Energy Technology Demonstration</i>							
Comment:							
Country: Estonia							
3/13/1995	3/13/2000	In Force	Primary DOE	True		Environmental Restoration and Waste Management	Technical Cooperation in Clean-up Paldiski Site
Title: <i>Memorandum of Understanding between the Department of Energy of the United States and the Ministry of Economy of Estonia for Technical Cooperation in the Clean-up of the Paldiski Nuclear Training Site</i>							
Comment: Cooperate and share interests and objectives in environmental restoration and in the safe and effective management of hazardous wastes and the clean-up of the environment at and around the nuclear training site at Paldiski, Estonia.							
2/4/2000	2/4/2003	In Force	Primary DOE	True		Fossil Energy	Oil Shale Research and Utilization
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Economic Affairs of the Republic of Estonia for Scientific and Technology Cooperation on Oil Shale Research and Utilization</i>							
Comment: Establishes a Joint Coordinating Committee to manage cooperative work under the agreement.							
Country: European Atomic Energy Community (EURATOM)							
5/27/1964		Expired	Primary DOE	True		Nuclear Energy	Fast Reactors
Title: <i>Agreement between the U.S. Atomic Energy Commission and the European Atomic Energy Community</i>							
Comment: Comprehensive exchange of information concerning fast reactors.							
7/7/1986	7/31/1991	Expired	Primary DOE	True		Environmental Safety Health	Health & Environmental Effects of Radiation
Title: <i>Memorandum of Understanding between the United States Department of Energy and the European Atomic Energy Community represented by the Commission of the European Communities concerning research on the Health and Environmental Effects of Radiation</i>							
Comment: Cooperation on a range of R&D aspects of radiation protection in areas such as source and dose determination; environmental processes and effects; somatic health effects; genetic health effects, etc.							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
12/15/1986	12/15/1996	Renegotiating	Primary DOE	True		Fusion Energy	Magnetic Fusion
Title: <i>Agreement for Cooperation between the European Atomic Energy Community and the United States Department of Energy in the field of Controlled Thermonuclear Fusion</i> Comment: Maintain and intensify cooperation between EURATOM and DOE in the areas covered by their respective magnetic fusion programs in order to develop the scientific understanding and technological underlying a magnetic fusion power system.							
7/21/1992	7/21/1999	Expired	Primary DOE	True		Fusion Energy	ITER
Title: <i>Agreement among the European Atomic Energy Community, Japan, Russia, and the United States on cooperation in the engineering design activities of the International Thermonuclear Experimental Reactor (ITER)</i> Comment: The US, EC, Japan and Russia shall conduct jointly the Engineering Design Activities (EDA) to produce a detailed, complete, and fully integrated engineering design of ITER and all technical data necessary for future decisions on the construction of ITER.							
1/28/1982	12/31/1992	Expired	Primary DOE	True		Arms Control and Nonproliferation	Nuclear Materials Safeguards
Title: <i>Agreement between the European Atomic Energy Community Represented by the Commission of the European Communities and the United States Department of Energy in the Field of Nuclear Material Safeguards Research and Development</i> Comment: Cooperation on R&D topics and the training of nuclear safeguards inspectors and specialists in order to enhance the effectiveness of nuclear fuel safeguards.							
10/6/1982	10/6/1992	Expired	Primary DOE	True		Civilian Radioactive Waste Management	Rad Waste
Title: <i>Agreement for Exchange of Information Concerning a Cooperative Program in the Field of Management of Radioactive Wastes between the United States Department of Energy and the European Atomic Energy Community</i> Comment: Establish a reasonable balanced exchange of information in the area of management of radioactive waste including characterization of waste forms and disposal in geologic formations							
5/5/1987	12/31/1991	Expired	Secondary DOE	True	Primary DOE	Fusion Energy	JET Pellet Fueling
Title: <i>Agreement on collaborative pellet fueling program as part of the cooperation on fusion research and development between the U.S. Department of Energy and the Joint European Torus (JET) undertaking</i> Comment: Investigate the influence of pellet injection on long-pulse ohmic							
4/14/1988	12/1/1991	Expired	Secondary DOE	True	Primary DOE	Fusion Energy	Collaborative Particle Control Program
Title: <i>Agreement on a fusion collaborative particle control program between the U.S. Department of Energy and the Joint European Torus (JET) undertaking</i> Comment: Advance R&D of magnetic fusion energy as a potential energy source through a collaborative program on particle control. Expired in 12/91							
3/6/2003	3/6/2008	In Force	Primary DOE	True			Technical Exchange and Cooperation Arrangement
Title: <i>Technical Exchange and Cooperation Arrangement between the Department of Energy of the United States of America and the European Atomic Energy Community as Represented by the Commission of the European Communities in the Field of Nuclear-Related Technology Research and Development</i> Comment:							
10/20/1988	12/31/1990	Expired	Secondary DOE	True	Primary DOE	Fusion Energy	Lower Hybrid Experiments on ASDEX
Title: <i>Implementing Agreement on a Cooperative Program for the Investigation of Toroidal Physics, and Plasma Technologies of, Tokamaks with Poloidal Field Divertors Annex I an Understanding for the Lower Hybrid Experiments on ASDEX between the European Atomic Energy Community and the Maz-Panck -Institute for Plasmaphysik, Acting through IPP and the USDOE</i> Comment: Determining the stability and confinement of the tokamak, principally with strong auxiliary heating, and energy confinement with high power LH heating alone in a typical tokamak density regime.							
3/1/1991	12/15/1996	Expired	Secondary DOE	True	Primary DOE	Fusion Energy	Fast Ions and Alpha Particles
Title: <i>Agreement on collaborative fusion program to develop collective Thomson scattering diagnostic system for fast ions & alpha particles between Joint European Torus (JET) undertaking of Commission of European Communities and USDOE</i> Comment: Installation and preliminary operation of diagnostic at JET							
3/21/1994	7/21/1999	Completed	Secondary DOE	True	Primary DOE	Fusion Energy	ITER Engineering Design Activities
Title: <i>ITER Engineering Design Activities</i> Comment: Submit proposals to the Councils to complete the joint implementation for decisions on future construction, operation, exploitation and decommissioning of ITER.							
1/6/1995	1/6/2005	In Force	Primary DOE	True		International Safeguards	EURATOM Safeguards
Title: <i>Agreement between the European Atomic Energy Community Represented by the Commission of the European Communities and the United States Department of Energy in the field of Nuclear Materials Safeguards Research and Development</i> Comment: Auto renewal for five years periods.							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
1/6/1996	1/6/1997	Completed	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 1 - Advanced Video Surveillance Technology Development Title: <i>The United States Department of Energy (DOE) and the European Atomic Energy Community represented by the Commission of European Communities (EURATOM) for Advanced Video Surveillance Technology Development</i> Comment:
6/12/1996	6/12/1998	Completed	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 3 - EMC-HPGe Detectors Title: <i>Action Sheet 3 between The Euratom Safeguards Directorate of the Commission of European Communities and the Department of Energy (DOE) of USA for Electromechanically-Cooled Germanium Detectors for Safeguards</i> Comment:
4/16/1998	4/16/2000	Completed	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 4a - SYNTH Gamma-ray spectra simulation software Title: <i>Action Sheet 4a the United States Department of Energy (DOE and the European Atomic Energy Community represented by the Commission of European Communities (EURATOM) for Training, and Additional Modification of the "SYNTH" Gamma-ray Spectra Simulation System</i> Comment:
10/2/1997	10/2/1999	Completed	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 6 - Underwater neutron measurements of fresh MOX fuel Title: <i>Action Sheet 6 between The Euratom Safeguards Directorate of the Commission of European Communities and The Department of Energy (DOE) of USA for Underwater Neutron Measurement of Fresh MOX fuel</i> Comment:
4/16/1998	4/16/2000	Completed	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 7 - Windows 95/NT Interface to MGA Title: <i>Action Sheet 7 The United States Department of Energy (DOE) and The European Atomic Energy Community represented by The Commission of European Communities (EURATOM) for Windows 95/NT Interface to MGA</i> Comment:
4/16/1998	4/16/1999	Completed	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 8 - Isotopic Analysis Evaluation using the PC/FRAM Physics Software Title: <i>Action Sheet 8 - The United States Department of Energy (DOE) and The European Atomic Energy Community represented by The Commission of European Communities (EURATOM) for Isotopic Analysis Evaluation using the PC/FRAM Physics Software</i> Comment:
4/16/1998	4/16/2000	Completed	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 9 - Development of a glass fibre optic measurement system Title: <i>Action Sheet 9 - The United States Department of Energy (DOE) and The European Atomic Energy Community represented by The Commission of European Communities (EURATOM) for Development of a glass fibre optic measurement system</i> Comment:
2/18/1999	2/18/2001	In Force	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 10 - Tank Analysis Title: <i>Action Sheet 10 - The United States Department of Energy (DOE) and The European Atomic Energy Community represented by The Commission of European Communities (EURATOM) for Computer Code Development for Automated Acquisition and Real-Time Analysis of Volume Measurement Data</i> Comment:
4/6/2003	4/6/2008	In Force	Primary DOE	True		Energy Research and Development	Fusion Energy Research and Development Title: <i>Agreement for Cooperation between the European Atomic Energy Community represented by the Commission of the European Communities and the Department of Energy of the United States of America in the Field of Fusion Energy Research and Development</i> Comment:
1/31/1989	12/15/1996	Expired	Secondary DOE	True	Primary DOE	Fusion Energy	Fusion - Fuel Processing Title: <i>Agreement on a collaborative fusion fuel processing program as part of the cooperation on fusion research and development between the U.S. Department of Energy and the Joint European Torus joint undertaking</i>

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Support the design, development, construction and operation of a system to process and handle the deuterium-tritium fuel which shall be utilized during the operation of the JET device							
5/14/2001	5/14/2006	In Force	Primary DOE	True		Fusion Energy	Fusion Agreement between EURATOM and DOE
Title: <i>Agreement for Cooperation between the European Atomic Energy Community Represented by the Commission of the European Communities and the Department of Energy of the United States of America in the Field of Fusion Energy Research and Development</i>							
Comment:							
Country: European Union							
12/17/1982		Completed	Statement of Intent	False		Energy Efficiency and Renewable Energy	Renewable Energy
Title: <i>Exchange of Letters establishing Cooperation in the Area of Renewable Energy Sources Research and Development</i>							
Comment: Exchange of information on solar, i.e., thermal solar power stations; Photovoltaic energy production; energy production from wind.							
2/26/1991	8/31/1992	Expired	Statement of Intent	False		Energy Research and Development	Study of Fuel Cycle Costs
Title: <i>Joint Statement of Intent between the Department of Energy and the European Communities on the study of fuel cycle costs</i>							
Comment: Research into methodology and data in fuel cycles							
5/6/1987	5/7/1997	Expired	Primary DOE	True		Fusion Energy	Tore Supra (CEA)
Title: <i>Agreement on collaboration on fusion R&D in Tore Supra between U.S. Department of Energy and French Commissariat A L'energie Atomique acting on behalf of European Atomic Energy Community</i>							
Comment: Provide expert personnel, data on design and engineering of advanced hardware and unique hardware elements with full DOE participation							
1/18/1978	12/31/1981	Expired	Primary DOE	False		Nuclear Energy	Fast Reactor Safety
Title: <i>Arrangement for the Collaboration between the EEC-WAC Group and DOE in the field of Whole Core Accident Comparison Calculations</i>							
Comment: Comparison of results from calculations performed by the Whole Core Accident Code (WAC) Working Group and DOE experts for LMFBR "Loss of flow" (LOF) and "transient overpower" accidents.							
6/17/2003	6/17/2008	In Force	edit test	True			Amendment relating to Cooperation in the area of Fuel Cells
Title: <i>Amendment to the Implementing Agreement between the Department of Energy of the United States of America and the European Commission, for Non-nuclear Energy Scientific and Technological Cooperation relating to Cooperation in the Area of Fuel Cells</i>							
Comment:							
5/14/2001	5/14/2006	In Force	Primary DOE	True		Science and Technology	Non-Nuclear Energy S&T Agreement
Title: <i>Implementing Agreement between the Department of Energy of the United States of America and the European Commission for Non-Nuclear Energy Scientific and Technological Co-operation</i>							
Comment:							
Country: Finland							
11/6/1980	11/6/1990	Expired	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Memorandum of Understanding between U.S. Department of Energy and the Finnish Ministry of Trade and Industry of for Cooperation in Energy Research and Development</i>							
Comment: Finding solutions connected with increasing the rational use of energy and with the design, development, construction and operation of alternative energy systems, i.e., environmental safeguards on energy production; advanced energy technologies; district heating technology; biomass and peat technology.							
1/17/1997	1/17/2001	In Force	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Trade and Industry of Finland for Cooperation in Energy Research and Development</i>							
Comment: Auto renewal for 5 years							
11/24/2003	11/24/2008	In Force	Primary DOE	True		Civilian Radioactive Waste Management	MOU between DOE and Posiva Oy
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and Posiva Oy Concerning a Cooperative Program in the field of Radioactive Waste Management</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Comment:

10/23/1990	10/23/1995	Expired	Primary DOE	True		Energy Research and Development	1990 Energy R&D MOU
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Trade and Industry of Finland for Cooperation in Energy Research and Development</i>							

Comment:

Country: France

10/27/1983		In Force	Secondary DOE	False	Primary DOE	Environmental Restoration and Waste Management	Radioactive Waste Management--West Valley
Title: <i>Statement of Intent between the United States Department of Energy and the French Commissariat a l'Energie Atomique on the West Valley Demonstration Project</i>							
Comment: Cooperate in the areas of treatment of radioactive waste and decontamination and decommissioning activities throughout the course of the DOE Demonstration Project at the Western New York Nuclear Service Center located at West Valley, New York.							

6/20/1986		In Force	Secondary DOE	False	Primary DOE	Civilian Radioactive Waste Management	Low-Level Radioactive Waste
Title: <i>Statement of Intent between the United States Department of Energy and the French Commissariat a l'Energie Atomique in the Field of Low-Level Radioactive Waste</i>							
Comment: Confirm intent to expand radioactive waste management cooperation in the area of surface and subsurface disposal and storage of low-level radioactive waste, as well as defined activities.							

10/19/1981	10/19/1986	Expired	Primary DOE	True		Nuclear Energy	Research Reactor Fuel
Title: <i>Agreement between the United States Department of Energy and the Commissariat a l'Energie Atomique of France on Cooperation in the Field of Research Reactor Fuel Performance</i>							
Comment: Developing reduced enrichment research reactor fuels.							

6/9/1982	12/31/1987	Expired	Primary DOE	False		Information and/or Personnel Exchange	Energy-Related Information
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the French Commissariat a l'Energie Atomique for the Exchange of Energy Information</i>							
Comment: Reasonably balanced exchange of information.							

4/22/1983	4/22/1993	Expired	Primary DOE	True		Arms Control and Nonproliferation	Physical Protection of Nuclear Materials
Title: <i>Memorandum of Understanding Concerning Research and Development in the Field of Physical Protection of Nuclear Materials and Facilities</i>							
Comment: Cooperation on research, development, test and evaluation to improve physical protection of nuclear materials and facilities.							

7/26/1983	7/31/1993	Expired	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: <i>Agreement between the United States Department of Energy and the French Commissariat A L'energie Atomique in the Field of Radioactive Waste Management</i>							
Comment: Establish cooperation in radioactive waste management of the nuclear fuel cycle.							

5/31/1985	2/28/1991	Expired	Primary DOE	True		Arms Control and Nonproliferation	National Nuclear Material Accounting/Control
Title: <i>Memorandum of Understanding Concerning Research and Development in the Field of National Nuclear Materials Accounting and Control Measures</i>							
Comment: Cooperate on research, development, test and evaluation of technology and procedures to improve national nuclear material accounting and control measures.							

9/13/1985	9/15/1992	Expired	Primary DOE	True		Civilian Radioactive Waste Management	Remote Systems Technology
Title: <i>Agreement between the United States Department of Energy and the French Commissariat a l'Energie Atomique in the Field of Remote Systems Technology</i>							
Comment: Cooperation in remote systems technology							

6/20/1986	5/31/1992	Expired	Primary DOE	True		Nuclear Energy	Nuclear Criticality Safety Information
Title: <i>Agreement between the United States Department of Energy and the Commissariat a l'Energie Atomique of France for an Exchange of Nuclear Criticality Safety Information</i>							
Comment: Establish conditions for an exchange and sharing of nuclear criticality safety information.							

2/16/1988	2/16/1991	Expired	Primary DOE	False		Fossil Energy	Enhanced Oil Recovery
Title: <i>Memorandum of Understanding between DOE and L'Institut Francais Du Petrole concerning an exchange of Energy Related Information in the area of Enhanced Oil Recovery</i>							
Comment: Exchange of info resulting from research and field testing							

7/27/1987	7/27/1992	Expired	Primary DOE	False		Information and/or Personnel Exchange	Exchange of Information
Title: <i>Memorandum of understanding between the U.S. Department of Energy and the French Commissariat A L'energie Atomique for the exchange of energy information</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Balanced exchange of energy information to complement energy R&D activities in the respective countries							
5/7/1976	5/7/1981	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Energy
Title: <i>Memorandum of Understanding Between the United States Energy Research and Development Administration and the French National Center for Scientific Research for Cooperation in Joint Research on Solar Thermal Conversion Systems</i>							
Comment: Cooperate to explore methods of providing alternative energy sources							
1/18/1977	9/30/1991	Expired	Primary DOE	True		Nuclear Energy	Fast Breeder Reactors
Title: <i>Agreement in the Field Liquid Metal-cooled Fast Breeder Reactors between United States Department of Energy and the French Commissariat A L'energie Atomique</i>							
Comment: Balanced exchange of LMFBR cooperation and technology							
9/29/1977	12/31/1979	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Energy
Title: <i>Memorandum of Understanding between the United States Energy Research and Development Administration and the French Centre National de La Recherche Scientifique on certain Safety Aspects of Solar Towers</i>							
Comment: Cooperative program to acquire information about the risks involved in the use of fields of heliostats with solar towers and how to minimize those risks.							
5/9/2000	5/9/2005	In Force	Primary DOE	True		Defense Programs	DOE/DGA Emerging Technologies
Title: <i>Technical Arrangement between the Department of Energy of the United States of America and the Minister of Defense of the French Republic Concerning Cooperation in the Application of Emerging Technologies</i>							
Comment: Auto Renewal for 5 year periods.							
12/1/1989	12/1/1994	Expired	Primary DOE	False		Classified	Subject/Contents Classified
Title: <i>Subject/Contents Classified</i>							
Comment: Description not available in History							
12/29/1997	12/29/2002	In Force	Primary DOE	True		Arms Control and Nonproliferation	Material Control and Accounting
Title: <i>Agreement between the Department of Energy of the United States and the Commissariat a l'Energie Atomique of France Concerning Research and Development in the Field of Nuclear Material Control and Accounting Measures</i>							
Comment: Cooperate on research, development, testing and evaluation in the area of nuclear material control and accounting measures.							
12/29/1997	12/29/2002	In Force	Primary DOE	True		Arms Control and Nonproliferation	Physical Protection of Nuclear Materials
Title: <i>Agreement between the Department of Energy of the United States and the Commissariat a l'Energie Atomique of France Concerning Research and Development in the Field of Physical Protection of Nuclear Materials and Facilities</i>							
Comment: Improve the US & France nuclear materials and facilities physical protection procedures							
4/26/1995	4/26/2005	In Force	Primary DOE	True		High Energy Physics	Accelerator Driven Technology
Title: <i>Agreement between the Department of Energy and the Commissariat a l'Energie Atomique for Cooperation in Research Development and Application for Accelerators driven Technology</i>							
Comment: Conduct cooperative program of scientific and technical engineering in research, development and application for accelerator driven technology							
9/20/1995	9/20/2000	In Force	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: <i>Agreement between the United States Department of Energy and the French Commissariat a l'Energie Atomique in the field of Radioactive Waste Management</i>							
Comment: Cooperation in the management of radioactive wastes for the purpose of minimizing the consequences of radioactive contamination on health and environment and promoting the safe and economic application of nuclear energy. Cooperation includes: characterization of geologic formations; field/laboratory testing; preparation/packaging of radioactive wastes; disposal in geologic formations; environmental and safety issues, etc.							
10/8/1995	10/8/2000	In Force	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: <i>Agreement between the United States Department of Energy and the National Radioactive Waste Management Agency of France in the Field of Radioactive Waste Management</i>							
Comment: Cooperate for purposes of minimizing consequences of radioactive contamination on health and environment and promoting safe and economic application of nuclear energy.							
10/30/1969	10/30/1972	Expired	Primary DOE	False		Information and/or Personnel Exchange	Exchange Nuclear S&T Information
Title: <i>Memorandum of Understanding between the United States Atomic Energy Commission and the French Commissariat a l'Energie Atomique for Cooperation in the Exchange of Nuclear Science and Technology Information</i>							
Comment: Development of information system to ensure ready access to nuclear documentation							
1/17/1990	1/17/1995	Expired	Secondary DOE	True	Primary DOE	Environmental Restoration and Waste Management	Waste Immobilization Technology

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Implementing Agreement between DOE and the French Commissariat a l'Energie Atomique in the area of Waste Immobilization Technology</i> Comment: Establish and carry out a joint development and testing program to investigate the performance of cement based waste forms for the immobilization of radioactive wastes.							
9/15/1987	9/15/1992	Expired	Secondary DOE	True	Primary DOE	Civilian Radioactive Waste Management	Radiation Hardening
Title: <i>Implementing Agreement between DOE and the French Commissariat a l'Energie Atomique in Reduction Hardening of Remote Maintenance Control System Hardware for Applications to High Radiation Fields</i> Comment: Joint development and test program to investigate the performance of radiation-hardened control system hardware in the radiation environment of TOR-404							
11/19/1994		In Force	Secondary DOE	True	Primary DOE	Defense Programs	Megajoule-Class Solid State Lasers - IA #1
Title: <i>Implementing Arrangement I between the United States Department of Energy and the French Atomic Energy Commission concerning Sharing of Science and Technology Information Related to Megajoule-class Solid State Lasers</i> Comment: Sharing of specific S&T information related to megajoule-class solid state lasers.							
11/19/1994	8/9/2004	In Force	Secondary DOE	True	Primary DOE	Defense Programs	Megajoule-Class Solid State Laser Technology - IA #2
Title: <i>Implementing Arrangement #2 between the United States Department of Energy and the French Commissariat a l'Energie Atomique on Cooperation in Megajoule-Class Solid State Laser Technology</i> Comment: Implement cooperative activities in research and development in megajoule-class solid state laser technology (high-power, high-energy solid state lasers and target experimental chambers and support systems)							
7/9/2001	7/9/2006	In Force	Secondary DOE	True	Primary DOE	Nuclear Energy	Advanced Nuclear Reactor Science and Technology (I-NERI)
Title: <i>Implementing Arrangement No. 1 under the Agreement between the Department of Energy of the United States of America and Commissariat A L'Energie Atomique of France for Cooperation in Advanced Nuclear Reactor Science and Technology</i> Comment: International Nuclear Energy Research Initiative							
3/14/2000	3/14/2002	In Force	Secondary DOE	True	Primary DOE	International Safeguards	Action Sheet 3 - Nuclear Materials Transportation Security
Title: <i>Action Sheet No. 3 The United States Department of Energy (DOE) and the Commissariat a l'Energie Atomique of France (CEA) for Nuclear Transportation Security</i> Comment:							
8/24/2004	8/24/2010	In Force	Primary DOE	True		Nuclear Energy	DOE/CEA FUTURIX Agreement
Title: <i>Implementing Arrangement Concerning Irradiation of Eight Pins in the Phenix Reactor under the Agreement between the Department of Energy of the United States of America and The Commissariat a l'Energie Atomique of France for Cooperation in Advanced Nuclear Reactor Science and Technology</i> Comment:							
9/18/2000	9/18/2005	In Force	Primary DOE	True		Nuclear Energy	Advanced Nuclear Reactor
Title: <i>Agreement between The Department of Energy of the United States of America and The Commissariat A L'Energie Atomique of France for Cooperation in Advanced Nuclear Reactor Science and Technology</i> Comment:							
1/20/2000	1/20/2001	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 2 - Isotopic Analysis Evaluation Using the PC/FRAM Physics Isotopics Software
Title: <i>Action Sheet No. 2 The United States Department of Energy (DOE) and The Commissariat a l'Energie Atomique (CNEA) of France for Isotopic Analysis Evaluation Using the PC/FRAM Physics Isotopics Software</i> Comment:							
7/27/1993	9/19/1994	Expired	Primary DOE	True		Defense Programs	1993 - High Energy Laser Matter
Title: <i>Agreement between the Department of Energy of the United States of America and the Commissariat a l'Energie of France for Cooperation in High Energy Laser-Mater Interaction Physics</i> Comment:							
8/9/1994	8/9/2004	In Force	Primary DOE	True		Defense Programs	1994- High Energy Lasers
Title: <i>Agreement between the Department of Energy of the United States of America and the Commissariat a l'Energie Atomique of France of Cooperation in Research, Development and Applications of High Energy Lasers and high Energy Laser-Mater Interaction Physics</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment:							
8/1/1989	12/31/1990	Completed	Secondary DOE	True	Primary DOE	Defense Programs	Task 1 - High Energy Laser Work Statement
Title: Task 1 - High Energy Laser Work Statement							
Comment:							
1/1/1990	12/31/1990	Completed	Secondary DOE	True	Primary DOE	Defense Programs	Task 2 Phebus Work Statement
Title: Task 2 Phebus Work Statement							
Comment:							
8/11/1989	12/31/1990	Completed	Secondary DOE	True	Primary DOE	Defense Programs	Task 3 Laser Experiments with Smooth Beams
Title: Task 3 Laser Experiments with Smooth Beams Work Statement							
Comment:							
8/1/1989	12/31/1990	Completed	Secondary DOE	True	Primary DOE	Defense Programs	Task 4 - High Z Laser Plasma
Title: Task 4 High-Z Laser Plasma Interaction Physics Work Statement							
Comment:							
8/1/1989	12/31/1990	Completed	Secondary DOE	True	Primary DOE	Defense Programs	Task 5 Laboratory X-Ray Laser Studies Work Studies
Title: Task 5 Laboratory X-Ray Laser Studies Work Statement							
Comment:							
8/1/1989	12/31/1990	Completed	Secondary DOE	True	Primary DOE	Defense Programs	Task 6 Neutron Diagnostics Development
Title: Task 6 Neutron Diagnostics Development Work Statement							
Comment:							
1/2/2002	1/2/2007	In Force	Statement of Intent	True		Exchange of Information on Research in Life Sciences	SOI between DOE and France
Title: Statement of Intent Between the Department of Energy of the United States of America and the Commissariat A' L'Energie Atomique of France Concerning Exchange of Information on Research in Life Sciences							
Comment:							
3/13/2002	3/12/2007	In Force	Primary DOE	True		Computer Sciences	Computer Sciences
Title: Agreement between the Department of Energy of the United States of America and the Commissariat A' L'Energie Atomique of France Concerning Cooperation in Computer Sciences							
Comment:							
3/13/2002	3/13/2007	In Force	Primary DOE	True		Fundamental Science	Fundamental Science on Stockpile Stewardship
Title: Agreement between the Department of Energy of the United States of America and the Commissariat A' L'Energie Atomique of France Concerning Cooperation in Fundamental Science Supporting Stockpile Stewardship							
Comment:							
5/23/2002	5/23/2007	In Force	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management Agreement
Title: Agreement between the Department of Energy of the United States of America and the Commissariat A' L'Energie Atomique of France in the field of Radioactive Waste Management							
Comment:							
12/19/1988	9/19/1991	Expired	Primary DOE	True		Defense Programs	High Energy Laser Matter Physics R&D
Title: U.S. Department of Energy - Commission on Atomic Energy of France agreement for cooperation in high energy laser-matter interaction physics research and development							
Comment: Establish and cover a program of scientific cooperation to engage in and be specifically limited to the unclassified utilization of high power lasers in laser-matter interaction physics, diagnostics and associated technological developments. (NOTE: Specifically excluded is the physics of indirectly driven inertial fusion target implosion and their design.);							
4/4/2005	4/4/2009	In Force	Primary DOE	True			Agreement bet. DOE and France
Title: Agreement between the Department of Energy of the United States of America and the Centre National de la Recherche Scientifique of France for Cooperation in Basic Scientific Research and Development							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Comment:

Country: Gabon

2/4/1982 12/31/1986 Expired Primary DOE False Energy Efficiency and Renewable Energy Solar Energy

Title: **Memorandum of Understanding between the Ministry of Energy and Hydraulic Resources of the Republic of Gabon and the United States Department of Energy for a Joint Program of Demonstration of Solar Photovoltaic Power in Gabon**

Comment: Program to demonstrate technical, and social value of photovoltaic power systems in rural ears of Gabon. Extended on year. Cost of \$ 1.6 M (\$.5 M to DOE).

Country: Germany

4/24/1987 4/30/1992 Expired Primary DOE True Nuclear Energy Remote Systems Technology

Title: **Agreement between the United States Department of Energy and the Federal Minister for Research and Technology of the Federal Republic of Germany in the field of Remote Systems**

Comment:

2/20/1998 2/20/2003 In Force Primary DOE True Energy Research and Development Energy Research

Title: **Agreement Between the Department of Energy of the United States of America and the Federal Ministry of Education, Science, Research and Technology of the Federal Republic of Germany on Cooperation in Energy Research, Science and Technology, and Development**

Comment: Auto renewal for 5 year periods. Broad-based umbrella agreement to allow formal cooperation in various program areas

11/2/1981 12/31/1987 Expired Primary DOE False Information and/or Personnel Exchange Energy-Related Information

Title: **Memorandum of Understanding between the Department of Energy of the United States of America and the Technical Information Center for Energy, Physics, and Mathematics of the Federal Republic of Germany**

Comment:

8/2/1965 12/31/1968 Expired Primary DOE False Nuclear Energy Gas Cooled Reactors

Title: **Memorandum of Understanding Regarding Cooperation Pertaining to the AVR Reactor**

Comment: Exchange of information in the field of pebble-bed high-temperature, gas-cooled reactors. Includes participation by Euratom

6/8/1976 9/30/1991 Expired Primary DOE True Nuclear Energy Fast Breeder Reactors

Title: **Agreement between the Energy Research and Development Administration and the Federal Minister for Research and Technology of Federal Republic of Germany in the Field of Liquid Metal-Cooled Fast Breeder Reactors**

Comment:

2/11/1977 2/11/1987 Expired Primary DOE True Nuclear Energy Gas Cooled Reactors

Title: **Agreement between U.S. Energy Research and Development Administration and the Federal Ministry for Research and Technology of the Federal Republic of Germany in the Field of Gas-Cooled Reactor Concepts and Technology**

Comment: Technology exchanges covering fuel, fission product behavior. Amended Sept. 30, 1977 to include French Atomic Energy Commission and Sciess Science and Research Offices

9/27/1977 In Force Primary DOE True Arms Control and Nonproliferation Nuclear Materials Safeguards/Physical Security

Title: **Agreement between the United States Department of Energy and the Federal Minister for Research and Technology of Germany Cooperate in the field of Nuclear Material Safeguards and Physical Security Research and Development**

Comment: Open-end expiration date

11/20/1987 11/20/1992 Expired Primary DOE False Information and/or Personnel Exchange Exchange of Information

Title: **Memorandum of Understanding between the U.S. Department of Energy and Federal Ministry for Research and Technology of Germany for an Exchange of Energy-Related Information**

Comment: INFORMATION EXCHANGE

10/5/1979 8/14/1981 Terminated Primary DOE True Fossil Energy Coal Liquefaction/SRC-II

Title: **Agreement between the Department of Energy of the United States of America and the Federal Minister for Research and Technology of the Federal Republic of Germany on Cooperation on Coal Liquefaction Using the SCR-II Process**

Comment: Agreement terminated by DOE in letter dated July 15, 1991

3/20/1980 3/20/1986 Expired Primary DOE True Fossil Energy Methanol Conversion to Gasoline

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Agreement between the Federal Minister for Research and Technology of the Federal Republic of Germany and the United States Department of Energy on a Project for the Conversion of Methanol to Gasoline</i> Comment: Signed in Bonn, Germany							
10/1/1981	10/1/1991	Expired	Secondary DOE	False	Primary DOE	Civilian Radioactive Waste Management	Radioactive Waste Isolation
Title: <i>Project Agreement between the Department of Energy of the United States of America and the Federal Minister for Research and Technology of the Federal Republic of Germany for the conduct of Experiments at the Asse Salt Mine</i> Comment:							
11/28/1984	11/28/1990	Expired	Secondary DOE	True	Primary DOE	Environmental Restoration and Waste Management	High-level Radioactive Waste
Title: <i>Project Agreement between the Department of Energy of the United States of America and the Federal Minister for Research and Technology of the Federal Republic of Germany on Methods of Treatment for Immobilization of High-Level Radioactive Waste</i> Comment:							
2/28/1991	6/30/1995	Expired	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Safeguards Techniques for Mixed UPu Oxide Fuel (MOX-II)
Title: <i>Project Agreement between the United States Department of Energy and the Federal Ministry for Research and Technology in the area of Nondestructive Assay Safeguards Techniques and Instrumentation for Siemens Mixed Uranium-Plutonium Oxide Fuel Fabrication Facility (MOX-II)</i> Comment:							
7/29/1992	7/29/1994	Expired	Tertiary DOE	True	Secondary DOE	Arms Control and Nonproliferation	NDA for Siemens Mixed UPu Oxide Fuel (MOX-II)
Title: <i>Annex to Project Agreement between the United States Department of Energy and the German Federal Minister for Research and Technology in the area of Nondestructive Assay Safeguards Techniques and Instrumentation for Siemens Mixed Uranium-Plutonium Fuel Fabrication Facility (MOXII)</i> Comment: covers project involving Los Alamos National Lab and Siemens Facility							
10/26/1978	7/31/1980	Expired	Intergovernmental	False		Fossil Energy	Coal Liquefaction/SRC-II
Title: <i>Protocol between the Government of the United States of America and the Federal Minister for Research and Technology of the Federal Republic of Germany</i> Comment: Affirmed the mutually beneficial cooperation on coal liquefaction project and welcomed the participation of the government of Japan							
7/24/2001	7/24/2006	In Force	Primary DOE	True		Science and Technology	Agreement between DOE and Germany on Dense Plasma Physics
Title: <i>Implementing Agreement between the Federal Ministry of Education and Research of the Federal Republic of Germany and the Department of Energy of the United States of America on Collaboration in the Field of Dense Plasma Physics</i> Comment:							
5/12/1998	5/12/2001	In Force	Secondary DOE	True	Primary DOE	Environmental Restoration and Waste Management	Project: Transportation of Rad Waste
Title: <i>Project Agreement between the Department of Energy of the United States of America and the Federal Institute for Material Research and Testing of the Federal Republic of Germany: Technical Exchange and Cooperation on Transportation Requirements in the Field of Management of Radioactive Waste</i> Comment:							
11/23/1994	11/23/1999	Expired	Primary DOE	False		Information and/or Personnel Exchange	Energy-Related Information
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Federal Ministry for Research and Technology of the Federal Republic of Germany on an Exchange of Energy-Related Information</i> Comment:							
11/1/2002	11/1/2007	In Force	Primary DOE	True			MOU bet. DESY AND SLAC
Title: <i>Memorandum of Understanding between the Deutsches Elektronen-Synchrotron DESY and the Stanford Linear Accelerator Center (SLAC) Establishing a Collaborative Research Effort to Enable the Exploitation and Expansion of the Scientific Capabilities of the Linac Coherent Light Source and the TESLA X-Ray Free-electron Laser</i> Comment:							
12/20/1974	6/30/1991	Expired	Primary DOE	True		Nuclear Energy	Radioactive Waste Management
Title: <i>Technical Exchange and Cooperative Arrangement between the U.S. Atomic Energy Commission and the Federal Ministry for Research and Technology of Germany in the Field of Management of Radioactive Wastes</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Comment: Cooperate in the field of radioactive waste management through such areas as retrievable surface storage facilities; waste management research and development; waste from decommissioning of nuclear installations; operating aspects of storage or disposal of low and intermediate level wastes and transportation of radioactive waste.

Country: Ghana

9/29/1995 In Force Statement of Intent False Energy Efficiency and Renewable Energy Energy Efficiency and Renewable Energy
Title: *Statement of Intent between the Department of Energy of the United States and the Ministry of Mines and Energy of the Republic of Ghana to Cooperate in the Fields of Energy Efficiency and Renewable Energy*

Comment: Exchanging experience and views on opportunities for the utilization of energy efficiency and renewable energy technologies.

10/30/1995 In Force Primary DOE False Nuclear Energy Peaceful Uses of Nuclear Energy
Title: *Memorandum of Understanding for the Exchange of Technical Information and for Cooperation in the Field of Peaceful Uses of Nuclear Energy between the Ghana Atomic Energy Commission and Argonne National Laboratory*

Comment: Establish the basis for a cooperative institutional relationship for the exchange of S&T information regarding the peaceful uses of atomic energy. This is between Ghana Atomic Energy Commission and ARGONNE NATIONAL LAB)

10/1/1996 10/1/2001 In Force Primary DOE True Energy Research and Development Energy Policy, S&T and Development
Title: *Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Mines and Energy of the Republic of Ghana on Cooperation in Energy Policy, Science and Technology, and, Development*

Comment: Facilitate and establish cooperative activities in such areas as: energy efficiency and renewable energy; fossil energy, including natural gas, liquefied petroleum gas, and clean coal technologies; environmental management, including utilization of energy technologies, particularly cost-effective technologies aimed at reducing emissions of greenhouse gases and minimizing environmental impacts; independent power project development, etc.

2/27/1997 2/27/2001 In Force Secondary DOE True Primary DOE Energy Efficiency and Renewable Energy Industrial Assessment Center
Title: *Implementing Arrangement Between the Department of Energy of the United States of America and the Ministry of Mines and Energy of the Republic of Ghana: Exchange of Information, Technical Assistance and Collaboration for the Establishment of the Industrial Assessment Center at the University of Science and Technology in Kumasi, Ghana*

Comment:

Country: Hungary

6/2/1992 Completed Statement of Intent False Energy Research and Development Technical and Administrative Assistance
Title: *Terms of reference between USDOE and the Hungarian Ministry of Industry and Trade on technical and administrative assistance*

Comment: Reorganizing and developing a regulatory framework for energy-related functions under purview of Min of Industry & Trade in areas of: review need for energy information system to support energy policy decisions; evaluate need for and role of energy regulatory body with respect to govt. pricing policy; compare functions of energy regulatory agency to public utility regulatory regime; assist in identifying ways to regulate low-level radioactive waste disposal methods.

Country: Iceland

11/23/1973 Expired Primary DOE False Energy Efficiency and Renewable Energy Geothermal
Title: *Arrangement between the U.S. Atomic Energy Commission and the Icelandic National Energy Authority to Exchange Information on the Utilization of Energy from Geothermal Sources*

Comment: Exchange of Information, technical specialists on the utilization of energy from geothermal sources

Country: India

7/13/1994 7/13/1999 Expired Statement of Intent False Bilateral Energy Consultations MOU for Bilateral Energy Consultations
Title: *Memorandum of Understanding between the Government of the United States of America (Department of Energy) and The Government of India (Ministry of Power)*

Comment:

7/13/1994 Pending Statement of Intent False Energy Efficiency and Renewable Energy SOI in Renewable Energy
Title: *Joint Statement of Intent between the Department of Energy of the United States of America and the Ministry of Non-Conventional Energy Sources of the Republic of India*

Comment: SOI recognizes the intent of the Parties to enter into an Implementing Arrangement in the area of renewable energy when the US/India Gov't to Gov't S&T Agreement is finalized

7/13/1994 Pending Statement of Intent False Energy and Environment SOI in Environment Enhancing Energy Technologies
Title: *Joint Statement of Intent between the Ministry of Environment and Forests of the Republic of India and the Department of Energy of the United States of America to Cooperate in Environment Enhancing Energy Technologies*

Comment: MOU to implement the Joint Statement of intent will not take effect until after the US/India Gov't to Gov't S&T agreement is concluded.

8/31/1987 8/31/1992 Expired Primary DOE True Information and/or Personnel Exchange EOR and Underground Coal Gasification

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Memorandum of Understanding between the United States Department of Energy and the Indian Oil and Natural Gas Commission for Cooperation in Enhanced Oil Recovery and Underground Coal Gasification</i>							
Comment:							
9/13/2000	9/13/2005	In Force	Primary DOE	False		Energy Efficiency and Renewable Energy	MOU between DOE and India concerning Energy Consultations
Title: <i>Memorandum of Understanding between the Ministry of Power of the Republic of India and the Department of Energy of the United States of America Concerning Energy Consultations</i>							
Comment:							
9/12/2003	9/12/2008	In Force	Primary DOE	True		Fossil Energy	India - Energy Consultations and Information Exchange
Title: <i>Memorandum of Understanding between the Ministry of Coal of the Republic of India and the Department of Energy of the United States of America Concerning Energy Consultations and Information Exchange.</i>							
Comment:							
2/9/2006	2/9/2011	In Force	Primary DOE	True			Hydrocarbon Sector Arrangement bet. DOE and India
Title: <i>Arrangement Between the Department of Energy of the United States of America and the Ministry of Petroleum and Natural Gas of the Republic of India for the Exchange of Information Relating to the Hydrocarbon Sector</i>							
Comment:							
Country: Indonesia							
11/9/2004	11/9/2009	In Force	Primary DOE	True			Nuclear Material Security and Safeguards Technologies
Title: <i>Arrangement between the Department of Energy of the United States of America and the Nuclear Regulatory Agency of the Republic of Indonesia for Cooperation in Nuclear Material Security and Safeguards Technologies</i>							
Comment:							
Country: Iraq							
12/20/2004	12/20/2009	In Force	Primary DOE	True		Science and Technology	MOU bet. DOE and Republic of Iraq
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and Ministry of Oil of the Republic of Iraq for Cooperation on Energy Analysis, Science and Technology, and Energy Technology Demonstration</i>							
Comment:							
Country: Israel							
8/1/1980	12/31/1983	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Passive Climate Control
Title: <i>Agreement between the Department of Energy of the United States and the Ministry of Energy and Infrastructure of Israel in Passive Climate Control Test Facilities</i>							
Comment:							
8/1/1980	12/31/1983	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Anaerobic Digestion Demonstration
Title: <i>Agreement between the Department of Energy of the United States and the Ministry of Energy and Infrastructure of Israel in Anaerobic Digestion Demonstrations</i>							
Comment:							
8/1/1980	12/31/1983	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Luminescent Planer Solar Collectors
Title: <i>Agreement between the Department of Energy of the United States and the Ministry of Energy and Infrastructure of Israel in Luminescent Planar Solar Collectors</i>							
Comment: Description not available in History							
6/3/1984	3/31/1991	Expired	Primary DOE	False		Energy Research and Development	Energy R&D
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development</i>							
Comment:							
6/17/1985	6/30/1990	Expired	Primary DOE	False		Information and/or Personnel Exchange	Energy-Related Information
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Established a reasonably balanced exchange of energy information. Coordinators for DOE and MOEI, respectively, were the Office of Scientific and Technical Information and the National Center of Scientific and Technological Information							
5/27/1987	5/31/1992	Expired	Primary DOE	False		Energy Research and Development	Basic Energy Sciences
Title: <i>Agreement between the Department of Energy of the United States of America and the Israeli Ministry of Science and Development in Basic Energy Sciences</i>							
Comment: WORKSHOP ON COMPUTATIONAL CHEMISTRY							
2/1/1996	2/1/2001	In Force	Primary DOE	True		Energy Efficiency and Renewable Energy	Energy Cooperation
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel Concerning Energy Cooperation</i>							
Comment: Establish a framework for collaboration in energy R&D activities including: solar energy; biomass; energy efficiency; wind energy; fossil energy, including oil, gas and coal; electric power production and transmission. Annex I on Intellectual Property and Annex II on Security Obligations are attached. Discussion underway in clean coal technology and electric vehicles.							
7/1/1975		Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Heating and Cooling
Title: <i>Memorandum of Understanding Concerning Cooperative Information Exchange Relating to the Development of Solar Heating and Cooling Systems in Buildings</i>							
Comment:							
10/1/1984	12/31/1987	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Oil Shale Organic Sulfur
Title: <i>Annex V to the Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development Fate of Organic Sulfur in U.S. and Israeli Oil Shales</i>							
Comment: Description not available in History							
10/1/1984	12/31/1987	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Annex 6 - Coal Conversion
Title: <i>Annex VI to the Agreement between the Department of Energy of the United States and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development Production of Alternative Fuels by Low-Temperature, Low-Pressure Coal Conversion</i>							
Comment:							
6/20/1985	12/31/1987	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 7 - Biomass
Title: <i>Annex VII to the Agreement Between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development TechnoEconomic Evaluation of Algal Biomass Energy Production and Conversion Systems</i>							
Comment:							
6/17/1985	12/31/1988	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 8 - Solar Cooling
Title: <i>Annex VIII - to the Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development Simulation and Analysis of High Efficiency Adsorption Systems for Solar Cooling</i>							
Comment:							
11/17/1987	6/30/1990	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Annex 10 - Simulation/Analysis High Temperature Receivers
Title: <i>Annex X - to the Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development Simulation and Analysis of High Temperature Receivers and thermochemical Processes for Central Receivers</i>							
Comment:							
9/29/1988	9/30/1991	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Annex 12 - Combustion of Pulverized Coal in Counter-Current
Title: <i>Annex XII to the Agreement between the Department of Energy of the United States and the Ministry of Energy and Industry and Infrastructure of Israel in Energy Research and Development Combustion of Pulverized Coal in Counter-Current Flow</i>							
Comment:							
11/17/1987	6/30/1990	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 13 - Theoretical/Experimental Eval Metal Hydride Slurry
Title: <i>Annex XIII to the Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development Theoretical and Experimental</i>							
Comment:							
5/27/1987	5/31/1992	Expired	Secondary DOE	False	Primary DOE	Information and/or Personnel Exchange	Annex 1- Information/Personnel Exchange
Title: <i>Annex I - to the Agreement between the Department of Energy of the United States of America and the Ministry of Science and Development of Israel in Energy Research Exchange of Information and Personnel</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment:							
6/17/1985	12/31/1989	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 1 - Solar Energy
Title: <i>Annex 1- to the Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development</i>							
Comment: Status of four ongoing projects in solar energy will be reviewed by the Joint DOE/MOEI Coordinating Committee established under the umbrella agreement							
6/3/1984	3/31/1991	Expired	Secondary DOE	False	Primary DOE	Information and/or Personnel Exchange	Annex 2 - Information/Personnel Exchange
Title: <i>Annex II to the Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development Exchange of Information and Personnel</i>							
Comment:							
2/22/2000		In Force	Statement of Intent	False		Arms Control and Nonproliferation	SOI on Nonproliferation, Arms Control and Regional Security
Title: <i>Letter of Intent between the Department of Energy of the United States of America and the Atomic Energy Commission of Israel on cooperation in the Fields of Non-Proliferation, Arms Control, and Regional Security</i>							
Comment:							
2/22/2000		Pending	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Renewable Energy Implementation Agreement
Title: <i>Implementation Agreement 1 between the Department of Energy of the United States of America and the Ministry of National Infrastructure of the State of Israel for Cooperation in the Field of Renewable Energy</i>							
Comment: Signed on February 22, 2000, implementation agreement will enter into force when the exchange of diplomatic notes takes place for the umbrella Agreement also signed with MONI on Feb. 22, 2000							
2/22/2000		Pending	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Electric and Hybrid Buses Implementation Agreement (2)
Title: <i>Implementation Agreement 2 between the Department of Energy of the United States of America and the Ministry of National Infrastructure of the State of Israel for Cooperation in the Field of Electric and Hybrid Buses</i>							
Comment: Signed on Feb. 22, 2000, will enter into forces after the exchange of diplomatic notes for the umbrella Agreement also signed on Feb. 22, 2000 with MONI							
2/22/2000	2/22/2005	Pending	Primary DOE	True		Energy Research and Development	Energy Cooperation Agreement
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of National Infrastructure of the State of Israel Concerning Energy Cooperation</i>							
Comment: Start Date is date of signature. Agreement will enter into force after notification through diplomatic channels.							
10/23/2001	10/23/2006	In Force	Primary DOE	True		Energy Efficiency and Renewable Energy	Cooperation in the Field of High Temperature Superconductivity
Title: <i>Implementation Agreement 3 between the Department of Energy of the United States of America and the Ministry of National Infrastructure of the State of Israel for Cooperation in the Field of High Temperature Superconductivity</i>							
Comment:							
10/1/1984	12/31/1987	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Oil Shale Extraction
Title: <i>Annex on Oil Shale Extraction</i>							
Comment: Description not available in History							
9/29/1987	12/31/1990	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Annex 11 - Fluidized Bed Retorting & Combustion of Oil Shales
Title: <i>Annex XI to the Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development Fluidized Bed Retorting and Combustion of Israeli Oil Shales</i>							
Comment:							
10/1/1984	12/31/1987	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Annex 5 - Oil Shale Blasting
Title: <i>Annex V to the Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Infrastructure of Israel in Energy Research and Development Fate of Organic Sulfur in U.S. and Israeli Oil Shales</i>							
Comment:							
Country: Italy							
10/31/1989		In Force	Statement of Intent	False	Intergovernmental	Information and/or Personnel Exchange	Synchrotron Light Source

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Protocol of Intent of Intent between the Department of Energy of the United States of America and the Ministry of the University and of Scientific and Technological Research of the Republic of Italy</i>							
Comment:							
12/5/1985	12/5/1991	Expired	Intergovernmental	True		Energy Research and Development	Energy R&D
Title: <i>Memorandum of Understand between the Government of the United States of America and the Government of the Italian Republic Concerning Energy Research and Development Cooperation</i>							
Comment:							
10/4/1993	10/4/2003	In Force	Intergovernmental	True		Science and Technology	Gov't to Gov't S & T
Title: <i>Agreement between the Government of the United States of America and the Government of the Italian Republic for Scientific and Technological Cooperation</i>							
Comment: Science and Technology agreement between the United States and the Government of Italy which allows U.S. Government agencies to undertake cooperation in their respective areas of responsibility. Renewed last in 1998.							
5/26/1995	5/26/2000	In Force	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce and Handicraft of the Italian Republic in the Field of Energy Research and Development</i>							
Comment: continues 1985 MOU in Energy R&D							
11/17/1965		Expired	Primary DOE	False		Nuclear Energy	Chemical Processing and Fabrication
Title: <i>Contract for Chemical Processing Fabrication Services between the United States Atomic Energy Commission Acting for and on Behalf of the Government of the United States of America and the National Committee for Nuclear Energy acting for and on behalf of the Government of the Italian Republic</i>							
Comment:							
6/3/1975	6/3/1990	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Geothermal
Title: <i>Agreement between the United States Energy Research and Development Administration (ERDA) and the Italian Ente Nazionale per L'Energia Elettrica (ENEL) on Cooperation in the Field of Geothermal Energy Research and Development</i>							
Comment:							
10/17/1979	12/31/1984	Expired	Primary DOE	False		Energy Research and Development	Energy R&D
Title: <i>Memorandum of Understanding between the Government of the United States and the Government of the Italian Republic Concerning Energy Cooperation</i>							
Comment: Annex I - Forms of Cooperation, Annex II - Joint Coal Program, Annex III Italy/U.S. Joint Solar Energy Program, Annex IV Italy/U.S. Joint UHV Program (Electricity)							
12/5/1985	12/5/1991	Expired	Primary DOE	False	Intergovernmental	Bilateral Energy Consultations	Energy Policy Consultations
Title: <i>Implementing Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce, and Handicraft of Italy on Energy Policy Consultations</i>							
Comment:							
4/11/1986	12/31/1988	Expired	Primary DOE	False	Intergovernmental	Fossil Energy	Coal Liquefaction
Title: <i>Implementing Memorandum to the Memorandum of Understanding between the Government of the United States and the Government of the Italian Republic Concerning Energy Research and Development Cooperation in a Laboratory Project for Direct Liquefaction of Coal</i>							
Comment:							
9/17/1986	12/31/1988	Expired	Primary DOE	False	Intergovernmental	Information and/or Personnel Exchange	Energy-Related Information
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Industry, Commerce, and Crafts of the Republic of Italy Concerning an Exchange of Energy-Related Information</i>							
Comment:							
7/8/1987	12/31/1991	Expired	Primary DOE	False	Intergovernmental	Fossil Energy	Quantitative Character of Reservoir Heterogeneity
Title: <i>Implementing Memorandum 2 to the Memorandum of Understanding between the Government of the United States and the Government of the Italian Republic Concerning Energy Research and Development Cooperation in Quantitative Characterization of Reservoir Heterogeneity - Scaling for Simulation</i>							
Comment:							
5/2/1990	12/5/1991	Expired	Primary DOE	True	Intergovernmental	Energy Research and Development	Implementing Agreement on Energy R&D
Title: <i>Implementing Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce and Handicraft of Italy on Enhanced Collaboration in Joint Planning and Exchange of Information and Cooperation in Energy Research and Development</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment:							
5/7/1997		In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 3 - Fossil Energy
Title: <i>Annex III to the Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce and Handicraft of the Republic of Italy to Cooperate in the Field of Fossil Energy</i>							
Comment: Two additional areas were added in March 1998; fuel cells for power applications and externally fired combined cycle systems							
3/24/1998	3/24/2003	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 4 - Advanced Geothermal Technology
Title: <i>Annex IV to the Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce and Handicraft of the Republic of Italy in the Field of Energy Research and Development for Cooperation on Advanced Geothermal Technology</i>							
Comment: Provides for collaboration between Lardello and the Geyser Geothermal Facilities							
3/24/1998	3/24/2008	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 5 - Biomass Energy
Title: <i>Annex V to the Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce and Handicraft of the Republic of Italy in the Field of Energy Research and Development for Cooperation in the Field of Biomass Energy</i>							
Comment: Information Exchange on biomass systems. Task sharing on hot gas clean-up for medium-scale gasifiers.							
3/24/1998	3/24/2008	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 6 - Photovoltaic Technology
Title: <i>Annex VI to the Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce and Handicraft of the Republic of Italy in the Field of Energy Research and Development for Cooperation in the Field of Photovoltaic Technology</i>							
Comment: Info exchange on reducing manufacturing costs of PV cells. Cooperation on guidelines for building integrated PV systems.							
5/5/1976	12/31/1981	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Geothermal
Title: <i>Agreement Concerning Cooperative Information Exchange Relating to the Development of Geothermal Energy</i>							
Comment:							
6/4/1980	12/31/1983	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 3 A - Solar Thermal & Photovoltaic Systems
Title: <i>Annex III-A Parallel Solar Thermal and Photovoltaic Systems</i>							
Comment:							
6/4/1980	12/31/1983	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 3 C - Solar Central Receiver Technology
Title: <i>Annex III-C Utility Applications Study of Solar Central Receiver Technology</i>							
Comment:							
7/10/1998	7/10/2003	In Force	Secondary DOE	True	Primary DOE	Energy Research and Development	Annex 7 - Electric and Hybrid Vehicles
Title: <i>Annex VII to the Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce and Handicraft of the Republic of Italy in the Field of Energy Research and Development for Cooperation in the Field of Electric and Hybrid Vehicles</i>							
Comment: Remains in force for 5 years or until the Agreement expires, whichever is sooner.							
6/4/1980	12/31/1983	Expired	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 3 D - Solar Photovoltaic System
Title: <i>Annex III-D Small Photovoltaic System Field Experiment (5 kWe)</i>							
Comment:							
5/17/2005	5/17/2010	In Force	Secondary DOE	True			Annex VIII
Title: <i>Annex VIII to the Agreement between the Department of Energy of the United States of America and the Ministry of Environment of the Republic of Italy in the Field of Energy and Related Environmental Sciences</i>							
Comment:							
Country: Japan							
5/2/1979	5/1/2005	In Force	Intergovernmental	True		Energy Research and Development	US/Japan Energy and Related Fields Agreement
Title: <i>Agreement between the Government of the United States of America and the Government of Japan on Cooperation in Research and Development in Energy and Related Fields</i>							
Comment: Maintaining and intensifying cooperation in research and development in energy and related fields.							
5/1/1980	12/31/1988	Superseded	Intergovernmental	False	Secondary DOE	Science and Technology	Science & Technology
Title: <i>Agreement on Cooperation in Research and Development in Science and Technology</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Preplaced by the USG-Japan agreement on cooperation in Research and Development in Science and Technology signed on June 20, 1988.							
6/20/1988	3/20/1999	Completed	Intergovernmental	True		Science and Technology	Research and Development in Science & Technology
Title: <i>Agreement between the Government of the United States of America and the Government of Japan on Cooperation in Research and Development in Science and Technology</i>							
Comment: Develop cooperative activities in scientific and technological R&D in such fields as may be mutually agreed for peaceful purposes. (NOTE: Original umbrella expired in June 1988. This new umbrella covers all previous S&T annexes) VISITS AND ASSIGNMENTS: No DOE/HQ CONTACT: Sal Ceja, IE-13, (202) 586-6175; FTS: 896-6175							
1/24/1983	5/1/2005	In Force	Broad	True	Intergovernmental	Fusion Energy	Fusion Energy
Title: <i>Exchange of Notes establishing the Cooperation in Fusion Research and Development</i>							
Comment: A cooperative program for the exchange of information, personnel and equipment, and special activities as may be mutually agreed, in various technical areas of fusion energy between DOE and the Ministry of Education, the STA, MONBUSHO, and the MITI, as established by an exchange of diplomatic notes and separate agreements within each organization. Remains in force as long as the Agreement between US-Japan on Cooperation in Research and Development in Energy and Related Fields remains in force.							
9/15/1993	9/15/1998	Expired	Primary DOE	True		Arms Control and Nonproliferation	R&D Nuclear Mat Control & Accounting for Safeguards
Title: <i>Agreement between the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and the United States Department of Energy (DOE) for Cooperation in Research and Development (R&D) Concerning Nuclear Material Control and Accounting Measures for Safeguards and Nonproliferation</i>							
Comment: On January 27, 2000, PNC's successor organization, the Japan Nuclear Cycle Development Institute (JNC), and DOE entered into new agreement to continue cooperation in international safeguards.							
4/11/1995	1/31/2000	Expired	Primary DOE	True		Nuclear Energy	Nuclear Technologies
Title: <i>Agreement between the Department of Energy of the United States of America and the Power Reactor and Nuclear Fuel Development Corporation in the Field of Nuclear Technologies</i>							
Comment: Replaces and supersedes the Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in the Field of Liquid Metal Cooled Fast Breeder Reactors signed on January 11, 1991.							
4/11/1995	4/11/2005	In Force	Primary DOE	False		Nuclear Energy	Nuclear Reactor Technologies R&D
Title: <i>Memorandum of Understanding between the United States Research and Development Organizations and the Japanese Research Organizations for Cooperation in Nuclear Reactor Technologies Research and Development</i>							
Comment: Provide a vehicle for cooperation between DOE and its national laboratories, EPRI and the Advanced Reactor Corporation, and the Japanese R&D Organizations, including PNC, JAPC, JAERI and CRIEPI to cooperate in nuclear reactor technologies R&D.							
7/17/1995	7/17/2005	In Force	Primary DOE	True		Nuclear Energy	Nuclear Research and Development - JAERI
Title: <i>Agreement between the Department of Energy of the United States of America and the Japan Atomic Energy Research Institute in the Field of Nuclear Research and Development</i>							
Comment: Cooperation to conduct programs associated with nuclear R&D in such areas as basic nuclear S&T, nuclear safety, and advanced nuclear technologies.							
3/4/1969	1/31/1979	Superseded	Primary DOE	True		Nuclear Energy	Fast Breeder Reactors
Title: <i>Arrangement between the United States Atomic Energy Commission and the Power Reactor and Nuclear Fuel Development Corporation on Fast Breeder Reactors</i>							
Comment: Amended in 1976. Superseded by the January 31, 1979 Liquid Metal-Cooled Fast Breeder Reactors.							
7/7/1989	3/31/1994	Expired	Primary DOE	True		Nuclear Energy	IFR Technology Program with CRIEPI
Title: <i>Contract between the United States Department of Energy and the Central Research Institute of Electric Power Industry of Japan for a Joint Work Program on IFR Technology</i>							
Comment: RESEARCH AND DEVELOPMENT							
7/31/1990	7/31/2000	Expired	Primary DOE	False		Nuclear Energy	Liquid Metal-Cooled Fast Breeder Reactors
Title: <i>Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in the Field of Liquid Metal-Cooled Fast Breeder Reactors</i>							
Comment: Replaced and superseded by Agreement between USDOE and PNC of Japan for Cooperation in the Field of Nuclear Technologies, concluded 4/11/95. Successor to the January 31, 1979 LMFBR Agreement, as amended and extended. Exchanges in Fast Breeder Reactors began with the March 4, 1969 arrangement between AEC and PNC							
1/31/1979	7/31/1990	Expired	Primary DOE	False		Nuclear Energy	Fast Breeder Reactors
Title: <i>Agreement Between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in the Field of Liquid Metal-Cooled Fast Breeder Reactors</i>							
Comment: Supersedes the March 4, 1969 Fast Breeder Reactor Arrangement							
2/2/1996	2/2/1998	Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 21 - "Transparency"

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Action Sheet 21 between the Power Reactor and Nuclear Fuel Development Corporation (PNC) of Japan and the United States Department of Energy (DOE) for Joint Research on "Transparency" in Nuclear Nonproliferation</i> Comment:							
8/28/1996	8/28/1997	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 24 - NDA of Nuclear Materials in Plutonium Canisters
Title: <i>Action Sheet 24 The Power Reactor and Nuclear Fuel Development corporation of Japan (PNC) and the United States Department of Energy (DOE) for Joint Development of Improved Safeguards Methods for Nondestructive Assay of Nuclear Materials in Plutonium Canisters</i> Comment:							
3/4/1997	3/4/1999	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 25 - PFPF Remote Monitoring and Software Upgrades (PNC)
Title: <i>Action Sheet 25 between The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and The Department of Energy (DOE) for PFPF Remote Monitoring and Software Upgrades</i> Comment:							
1/12/1998		Completed	Tertiary DOE	True	Secondary DOE	Arms Control and Nonproliferation	Action Sheet 15 - Installation of Clean Lab
Title: <i>Action Sheet 15 between The United States Department of Energy (DOE) and The Japan Atomic Energy Research Institute (JAERI) for Production of Final Systems Requirement Documents for the Design, Installation, and Operation of a Clean Laboratory Facility for Environmental Sample Analysis</i> Comment:							
1/12/1998		Completed	Tertiary DOE	True	Secondary DOE	Arms Control and Nonproliferation	Action Sheet 16 - Analysis of Minute Amounts of Nuclear Materials
Title: <i>Action Sheet 16 between The United States Department of Energy (DOE) and The Japan Atomic Energy Research Institute (JAERI) for Study of Technologies to Analyze Minute Amount of Nuclear Materials (II)</i> Comment:							
10/5/1999	3/31/2000	Completed	Tertiary DOE	True	Secondary DOE	Arms Control and Nonproliferation	Action Sheet 17 Quality Assurance and Quality Control Practices
Title: <i>Action Sheet 17 between The United States Department of Energy (DOE) and The Japan Atomic Energy Research Institute (JAERI) for Joint Cooperation in Establishing and Implementing QA/QC Practices at JAERI Clean Chemistry Laboratory during JFY 1999</i> Comment:							
4/16/1984	12/31/1989	Expired	Primary DOE	False		Nuclear Energy	Three Mile Island
Title: <i>Agreement between the Japanese Participants and the United States Department of Energy for Japanese Participation in the Three Mile Island Unit 2 Research and Development Activities</i> Comment:							
9/27/1985	9/27/1995	Expired	Primary DOE	True		Nuclear Energy	High Temperature Gas Cooled Reactors
Title: <i>Implementing Arrangement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Research and Development in the area of High Temperature Gas-Cooled Reactors</i> Comment: Establishes the basis for the exchange of information and personnel, and testing of equipment in each other's facilities, related to developing the technology for high temperature gas-cooled reactors. Under the Exchange of Notes of September 27, 1985, between the Embassy of the United States of America and the Ministry of Foreign Affairs of Japan							
12/3/1986	12/2/2001	In Force	Primary DOE	True		Nuclear Energy	Radioactive Waste Management
Title: <i>Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corp of Japan in the Area of Radioactive Waste Management</i> Comment: Study topics and develop cooperatively and jointly technology and techniques necessary for the safe management of radioactive wastes.							
7/2/1987	7/2/1992	Expired	Primary DOE	False		Civilian Radioactive Waste Management	Decommissioning Nuclear Facilities
Title: <i>Agreement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Decommissioning Nuclear Facilities</i> Comment: Description not available in History							
6/24/1988	6/30/1993	Expired	Primary DOE	False		Electric Field Effects	Electric and Magnetic Field Effects CRIEPI
Title: <i>Agreement between the Department of Energy of the United States of America and the Central Research Institute of the Electric Power Industry of Japan in the Area of Electric and Magnetic Field Effects</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Established Joint DOE/CRIEPI Committee on Magnetic and Electric Field Effects							
7/2/1990	7/2/1995	Expired	Primary DOE	True		Arms Control and Nonproliferation	Nuclear Materials Control Accountancy...Protection - JAERI
Title: <i>Agreement between the United States Department of Energy and the Japan Atomic Energy Research Institute Concerning Research and Development in Nuclear Material Control, Accountancy, Verification, and Physical Protection</i>							
Comment: Cooperation on research, development, testing and evaluation of technology, equipment, and procedures in order to improve nuclear material control, accountancy, verification, and physical protection. VISITS AND ASSIGNMENTS: Yes DURATION: To Be Determined. DOE/HQ Contact: Kenneth Sanders, AN-30; (202) 586-7592							
11/16/1990		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 2 - Near-Real-Time Accounting (JAERI)
Title: <i>Action Sheet 2 Near-Real-Time Accounting</i>							
Comment:							
11/16/1990		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 3 - NDA for the NUCEF (JAERI)
Title: <i>Action Sheet 3 Joint Development of Nondestructive Assay Techniques for the Nuclear Fuel Cycle Safety Engineering Research Facility (NUCEF)</i>							
Comment:							
11/16/1990		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 4 - Equipment for FCA Facility
Title: <i>Action Sheet 4 Equipment for Fast Critical Assembly (FCA) Facility</i>							
Comment:							
2/5/1992		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 5 - Automatic Comparison Equipment for (FCA0 (JAERI)
Title: <i>Action Sheet 5 Automatic Comparison Equipment for Fast Critical Assembly (FCA)</i>							
Comment:							
2/1/1995		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 6 - Remote Monitoring Project (JAERI)
Title: <i>Action Sheet 6 The United States Department of Energy (DOE) and The Japan Atomic Energy Research Institute for Cooperation and Participation in the DOE International Remote Monitoring Project</i>							
Comment:							
3/24/1995		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 7 - Near-Real-Time Accounting (JAERI)
Title: <i>Action Sheet 7 The United States Department of Energy and The Japan Atomic Energy Research Institute (JAERI) for Study of Design and Evaluation of a Near-Real-Time Accounting System</i>							
Comment:							
3/27/1996		Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 8 - UFFM for HTTR (JAERI)
Title: <i>Action Sheet 8 between the United States Department of Energy (DOE) and The Japan Atomic Energy Research Institute (JAERI) for Exchange of Personnel to Support the Development of an Unattended spent Fuel Block Flow Monitoring System for High Temperature Engineering Test Reactor (HTTR)</i>							
Comment:							
2/14/1997		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 12 - Initial Systems Documents for the Clean Lab Facility (JAERI)
Title: <i>Action Sheet 12 between The United States Department of Energy (DOE) and The Japan Atomic Energy Research Institute (JAERI) for Production of Initial System Requirement Documents for the Design, Construction, and Operation of a Clean Laboratory Facility for Environmental Sample Analysis</i>							
Comment:							
2/14/1997		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 13 - Study of Tech to Analyze Minute Amounts (JAERI)
Title: <i>Action Sheet 13 between The United States Department of Energy (DOE) and The Japan Atomic Energy Research Institute (JAERI) for Study of Technologies to Analyze Minute Amount of Nuclear Materials</i>							
Comment:							
2/9/1983	12/31/1987	Expired	Primary DOE	False	Intergovernmental	High Energy Physics	Neutron Scattering - Monbusho
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Monbusho of Japan concerning Joint Research in Neutron Scattering</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Remains in force as long as the Agreement between USA and Japan on Cooperation in Research and Development in Science and Technology Agreement, signed on May 1, 1980 remains in force							
4/9/1984	12/31/1987	Expired	Primary DOE	False	Intergovernmental	Nuclear Energy	Nuclear Physics
Title: <i>Arrangement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Research in the area of Nuclear Physics</i>							
Comment:							
4/26/1984	4/26/1994	Expired	Primary DOE	False	Intergovernmental	Electric Field Effects	Electric Field Effects - MITI
Title: <i>Implementing Arrangement between the Ministry of International Trade and Industry of Japan and the Department of Energy of the United States of America in the Area of Electric Field Effects</i>							
Comment: RESEARCH AND FINAL ANALYSIS, Jan 28, 1988 exchange of letters amended and extended the agreement for an addition 5 years.							
5/3/1996	5/3/2001	In Force	Primary DOE	True	Intergovernmental	Science and Technology	DOE/STA Basic Science & Technology
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Science and Technology Agency of Japan in the Field of Basic Science and Technology</i>							
Comment: Determine cooperation on joint projects in the field of basic S&T which may include nuclear physics; synchrotron radiation; medical application of the radiation produced by accelerators; spin physics program at the Relativistic Heavy Ion Collider and biologic effects of radiation.							
7/31/1980	8/31/1981	Terminated	Primary DOE	False	Intergovernmental	Fossil Energy	Coal Liquefaction/SRC-II
Title: <i>Agreement between the Government of the United States of America and the Government of Japan on Cooperation in Coal Liquefaction Using the SRC-II Process</i>							
Comment:							
9/30/1981	2/1/2000	Expired	Primary DOE	False	Intergovernmental	Energy Efficiency and Renewable Energy	Photosynthesis
Title: <i>Exchanges of Notes Establishing the Cooperative Photoconversion and Photosynthesis Research Program</i>							
Comment: Establishes personnel and information exchange as well as some joint equipment developments, in research (biological, physical and chemical) in the area of solar energy conversion by means of photosynthesis.							
5/7/1982	5/31/1992	Expired	Primary DOE	False	Intergovernmental	Energy Efficiency and Renewable Energy	Solar Energy
Title: <i>Implement Arrangement between the United States Department of Energy and the Agency of Industrial Science and Technology of Japan in the Field of Solar Energy</i>							
Comment:							
1/25/1983	5/1/2005	In Force	Primary DOE	True	Broad	Fusion Energy	Fusion Energy - MITI
Title: <i>Exchange of Letters establishing the MITI-DOE Cooperation in Fusion Research and Development</i>							
Comment: Remains in effect as long as the Exchange of Notes between USA-Japan on Cooperation in Fusion Research and Development							
1/25/1983	5/1/2005	In Force	Primary DOE	True	Broad	Fusion Energy	Fusion Energy - STA - Primary DOE agreement
Title: <i>Exchange of Letters establishing the STA-DOE Cooperation in Fusion Research and Development</i>							
Comment: Remains in effect as long as the Exchange of Notes between USA-Japan on Cooperation in Fusion Research and Development							
9/18/1987	9/30/1990	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Annex 5 - Collaborative Program for MHTGR/HTTR Development
Title: <i>Annex to the Implementing Arrangement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Research and Development in the Area of High Temperature Gas-Cooled Reactors. Annex 5. Collaborative Program for MHTGR and HTGR Development</i>							
Comment: CONTINUE EFFORTS TO DEVELOP SPECIFIC AREAS FOR COOPERATION (COOPERATIVE PROJECTS)							
3/26/1993	3/26/1997	Expired	Secondary DOE	False	Primary DOE	Environmental Restoration and Waste Management	Characterization and Predictive Technologies
Title: <i>Annex to agreement between Power Reactor and Nuclear Fuel Development Corp of Japan (PNC) & USDOE on cooperation in area of radioactive waste management -- collaborative program on mass transport: characterization and predictive technologies</i>							
Comment: Improve the understanding of the fundamental physics and chemistry that governs the processes that will play a significant role in the safety of radioactive waste disposal and develop characterization and predictive technologies of release and transport of radionuclides in heterogeneous geologic media.							
8/5/1993	8/5/1997	Expired	Secondary DOE	False	Primary DOE	Civilian Radioactive Waste Management	Annex 1 - Fundamental Thermochemical and Adsorption Data
Title: <i>Annex to the Agreement between the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and the United States Department of Energy (DOE) on Cooperation in the Area of Radioactive Waste Management PNC-DOE Collaborative Program on Development of Fundamental Thermochemical and Adsorption Data</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment:							
12/7/1987	7/31/1992	Expired	Secondary DOE	False	Primary DOE	Environmental Restoration and Waste Management	Assignment of Personnel to Shippingport Station
Title: <i>The Agreement between the United States Department of Energy and the Japan Atomic Energy Research Institute pertaining to the Assignment of Personnel to the Shippingport Station Incident to the Agreement on Decommissioning Nuclear Facilities</i>							
Comment:							
3/31/1988	3/31/1992	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 1 - Remote-Controlled NDA for MOX Fuel
Title: <i>Specific Memorandum of Agreement (SMA) between the United States Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Development of Remote-Controlled Nondestructive Assay Safeguards Techniques for Automated Production of Mixed uranium-Plutonium Oxide (MOX) Fuel</i>							
Comment: PERMANENT COORDINATING GROUP MEETING, OCTOBER 1991							
11/30/1988	11/30/1992	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 2 - Near-Real-Time Accounting Mixed Oxide Fuel Fab
Title: <i>Specific memorandum of agreement between USDOE - Power Reactor & Nuclear Fuel Development Corp of Japan (PNC) for joint systems analysis studies of near real time accounting for a mixed oxide fuel fabrication facility</i>							
Comment: TECH INTERCHANGE MTG AT LANL (6/91) RE: VALIDATION OF COMPUTER MODEL USING OPERATIONAL DATA FROM PFPF							
3/30/1990	9/15/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 3 - NDA for Feed Pu Storage in Auto Production of MOX
Title: <i>Specific Memorandum of Agreement (SMA) between the United States Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corp of Japan (PNC), the parties, for Joint Development of Remote Controlled Nondestructive Assay Safeguards Techniques for Feed Plutonium Storage in Automated Production of Mixed Uranium-Plutonium Oxide (MOX) Fuel</i>							
Comment: Development and application of a remote-controlled NDA system for PuO ₂ canisters to the temporary plutonium storage in PFPF. The work performed under this SMA shall be performed at Los Alamos National Laboratory and the Japan PFPF. Original term was for 4 years							
8/12/1983	4/30/1986	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Breeder Fuel Criticality Data
Title: <i>Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation, Japan in the Area of Criticality Data Development</i>							
Comment:							
9/30/1983	12/31/1989	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Breeder Reactors/CRBR-MONJU
Title: <i>Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan for Cooperation in the Clinch River Breeder Reactor (CRBR) Project and the Monju Prototype Fast Breeder Reactor Project</i>							
Comment:							
1/13/1984	12/31/1988	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Safety Design Criteria
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in the area of a Common Approach to LMFBR Safety Design Criteria</i>							
Comment:							
3/29/1985	3/31/1990	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Radioactive Liquid-Fed Ceramic Melter
Title: <i>Memorandum of Agreement between the Power Reactor and Nuclear Fuel Development Corporation of Japan and the United States Department of Energy for the Collaborative Testing of a Radioactive Liquid-Fed Ceramic Melter</i>							
Comment:							
11/15/1985	3/31/1997	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fuels & Materials Development SMA
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan for the Development of Fuels and Materials for Liquid Metal Reactors.</i>							
Comment: Cooperative work on the development of field and materials for liquid metal reactors. Original Term until March 31, 1992.							
11/20/1986	12/31/1988	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	LMFBR Cores
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in a Joint Physics Program of Benchmark Critical Experiments for Engineering f Large Advanced LMFBR Cores</i>							
Comment:							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
6/24/1987	6/30/1992	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Nuclear Fuel Cycle: LMR Reprocessing Technology
Title: <i>Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation, Japan for Joint Collaboration in the Field of the Nuclear Fuel Cycle: Liquid Metal Reactor (LMR) Reprocessing Technology</i>							
Comment: TECHNOLOGY EXCHANGE IN REPROCESSING							
9/21/1987	12/31/1995	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Testing of Oxide Fuel in EBR-II
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan for a Collaborative Program of Operational Testing of Oxide Fuel in EBR-II</i>							
Comment: DOE to perform specialized EBR-II Operational Reliability Testing (ORT) in collaboration with PNC for the long-life core system development and fuel reliability demonstration.							
1/14/1988	12/31/1989	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Spatial Decoupling Experiments in LMFBR Cores
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in a Joint Physics Program of Spatial Decoupling Experiments in a Large Advanced LMRBR Core</i>							
Comment:							
8/19/1988	8/31/1992	Completed	Secondary DOE	False	Primary DOE	Nuclear Energy	SMA - Centralized LMFBR Component Database
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in the area of a Cooperative Program for the Development of a Centralized LMFBR Component Reliability Data Base and Data Base Management System</i>							
Comment: DATA COLLECTION AND DATA BASE MANAGEMENT VALIDATION							
1/29/1983	5/1/2005	In Force	Primary DOE	True	Broad	Fusion Energy	Fusion Energy - Monbusho - Primary DOE agreement
Title: <i>Exchange of Letters establishing the Monbusho-DOE Cooperation in Fusion Research and Development</i>							
Comment: Remains in effect as long as the Exchange of Notes between USA-Japan on Cooperation in Fusion Research and Development							
5/19/1986	2/1/2000	Expired	Primary DOE	True	Intergovernmental	Fossil Energy	Coal R&D - AIST
Title: <i>Implementing Arrangement between the Agency of Industrial Science and Technology and the United States Department of Energy in Coal Energy Research and Development</i>							
Comment: Establish comprehensive cooperation in the area of coal research R&D in order to accelerate development of coal energy R&D efforts on the basis of reciprocity and mutual benefit.							
10/16/1987	5/1/2005	In Force	Primary DOE	True	Intergovernmental	Fossil Energy	Coal R&D - AIST and ANRE
Title: <i>Implementing Arrangement between the Agency of Industrial Science and Technology and the Agency of Natural Resources and Energy of Japan and the United States Department of Energy in Coal Research and Development</i>							
Comment: Establish comprehensive cooperation in the area of coal energy R&D in order to accelerate development of coal R&D efforts, i.e., coal liquefaction, coal gasification; materials and components for coal conversion and utilization; pollution control technology related to coal conversion and utilization.							
6/15/1978	12/31/1988	Expired	Primary DOE	False	Intergovernmental	Energy Efficiency and Renewable Energy	Geothermal
Title: <i>Implementing Arrangement between the United States Department of Energy and the Agency of Industrial Science and Technology of Japan in the Field of Geothermal Energy Applications</i>							
Comment: Originally under the July 15, 1974 US-Japan Agreement on Cooperation in the Field of Energy Research and Development which was superseded by the May 2, 1979 Agreement between US and Japan on Cooperation in Research and Development in Energy and Related Fields.							
5/2/1979	12/31/1980	Completed	Primary DOE	True	Intergovernmental	Fossil Energy	Coal Liquefaction/SRC-II
Title: <i>Exchange of note between Government of Japan and the Government of the United States of America concerning Japanese participation in Phase Zero of the Multiphase project of the United States Department of Energy for the production of liquid solvent refined coal products (SRC-II project)</i>							
Comment: Maintaining and intensifying cooperation in research and development in energy and related fields. VISITS AND ASSIGNMENTS: Executed under project agreements. DURATION: N/A DOE/HQ CONTACT: Karin Berry, IE-12, (202) 586-5900; FTS: 896-5900							
8/24/1979	5/1/2005	In Force	Primary DOE	False	Intergovernmental	Fusion Energy	Fusion Energy/Coordinating Committee
Title: <i>Exchange of Letters Establishing a Coordinating Committee on Fusion Energy</i>							
Comment: Establish a Coordinating Committee on Fusion Energy to facilitate the coordination and implementation of cooperative activities in the area of fusion as well as to assure proper balance and to ensure the overall planning and oversight of such cooperative activities.							
8/28/1979	8/28/2000	In Force	Primary DOE	True	Intergovernmental	Fusion Energy	Fusion Energy/Doublet III
Title: <i>Agreement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Doublet III Project</i>							
Comment: Undertake experimental research on tokamak plasmas with doublet and dee-shaped cross-sections in the Doublet III, a tokamak facility, located in LaJolla, California.							
11/11/1979	5/1/2005	In Force	Primary DOE	True	Intergovernmental	High Energy Physics	High Energy Physics

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Education, Science and Culture of Japan on Cooperation in Field of High Energy Physics</i>							
Comment: Establish a framework for cooperation in the field of high energy physics including research; accelerator and detector instrumentation R&D; the fabrication and subsequent use of new experimental devices and facilities. Remains in forces for the duration of the U.S.-Japan R&D in Energy and Related Fields Agreement signed on May 2, 1979							
2/9/1983	12/31/1987	Expired	Primary DOE	False	Intergovernmental	High Energy Physics	Neutron Scattering - STA
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Science and Technology Agency of Japan concerning Joint Research in Neutron Scattering</i>							
Comment: Remains in force as long as the Agreement between USA and Japan on Cooperation in Research and Development in Science and Technology Agreement, signed on May 1, 1980 remains in force							
1/27/1994	12/31/1994	Expired	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Upgraded Glove Box Accounting Systems
Title: <i>Joint development of waste measurement systems and development and application of upgraded glove box accounting systems.</i>							
Comment:							
1/27/1994	9/30/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 15 - Waste Measurement System Glove Box Acct Systems (PNC)
Title: <i>Action Sheet 15 between the Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Development of Waste Measurement Systems and Development and Application of Upgraded Glove Box Accounting Systems</i>							
Comment: Joint development of waste measurement systems and development and application of upgraded glove box accounting systems. DOE/HQ CONTACT: Kenneth Sanders, NN-44, 586-8460							
3/10/1995	3/10/1996	Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 16 - Fundamental Design of C/S System
Title: <i>Action Sheet 16 The United States Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Studies of the Fundamental Design of C/S System for the PPF Advanced Thermal Reactor (ATR) Fuel Fabrication Line Fuel Pin Storage</i>							
Comment:							
3/17/1995	3/17/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 17 - NDA of holdup and scrap materials
Title: <i>Action Sheet 17 The United States Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Development of Improved Safeguards Methods for Nondestructive Assay Measurements of Holdup and Scrap Materials</i>							
Comment:							
7/31/1995	1/31/1997	Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 18 - Install Fuel Assembly System...Fugen Reactor (PNC)
Title: <i>Action Sheet 18 between The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and The Department of Energy (DOE) for Installation of Fuel Assembly Monitoring System at the Fugen Reactor in Japan</i>							
Comment: Description not available in History							
7/31/1995	1/31/1997	Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 19 - Measuring Vitrified High Level Waste Canisters (PNC)
Title: <i>Action Sheet 19 between The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and The Department of Energy (DOE) for Development of a Safeguards System for Measuring Vitrified High Level Waste Canisters</i>							
Comment: Development of nondestructive assay (NDA) system for verifying the plutonium content in the canisters containing vitrified high level waste at the Tokai Vitrification Facility in Japan							
11/2/1995	5/2/1997	Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 20 - RMS for nuclear nonproliferation
Title: <i>Action Sheet 20 between The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and The Department of Energy (DOE) for Development of a Remote Monitoring System for Nuclear Nonproliferation</i>							
Comment:							
3/19/1986	3/31/1990	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Annex 1 Collaborative Program for Fission Chamber Test
Title: <i>Annex to the Implementing Arrangement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Research and Development in the Area of High Temperature Gas-Cooled Reactors Annex 1. Collaborative program for Fission Chamber Test</i>							
Comment:							
3/24/1986	3/31/1991	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Annex 2 - Coated Particle Fuel Performance Test
Title: <i>Annex to the Implementing Agreement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in the Research and Development in the area of High Temperature Gas-Cooled Reactors Annex 2. Collaborative Program for the Coated Particle Fuel Performance Test</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: IRRADIATION TEST (DOE FUEL); INITIAL ACCIDENT HEATUP TESTING							
5/22/1987	9/30/1990	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Annex 3 - Graphite Materials Development Testing
Title: <i>Annex to the Implementing Arrangement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Research and Development in the Area of High Temperature Gas-Cooled Reactors</i>							
Comment: CONTINUE WORK ON 7 ONGOING TASK AGREEMENTS INCLUDING IRRADIATION - CREEP, OXIDATION, FATIGUE, ETC.							
1/11/1990	1/11/2005	In Force	Tertiary DOE	True	Secondary DOE	Fusion Energy	Annex 9 - Data Link
Title: <i>Annex IX to the Implementing Arrangement between the Japan Atomic Energy Research Institute and United States Department of Energy on Cooperation in Fusion Research and Development for the DOE-JAERI Collaboration on the Data Link</i>							
Comment: Establish the Data Link to facilitate rapid information exchanges between fusion researchers of the Parties through (1) code development and/or usage; (2) data analysis and/or theory/experiment comparison; (3) access to computers in home countries by visiting scientists for computations related to purpose of visit; (4) administration of the Data Link. VISITS: Yes DURATION: To Be Determined DOE/HQ CONTACT: Arthur Katz, ER-523, (301) 903-4932; FTS: 233-4932							
11/1/1989	11/30/1991	Completed	Tertiary DOE	False	Secondary DOE	Fusion Energy	Annex 10 - TV Thomson Scattering System for JFT-2M
Title: <i>Annex X to the Implementing Arrangement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program on a TV Thomson Scattering System for JFT-2M</i>							
Comment: COMPLETE INSTALLATION OF HARDWARE							
4/16/1992	4/16/1997	Completed	Tertiary DOE	False	Secondary DOE	Fusion Energy	Annex 11 - Test Negative Ion Sources Accelerators...Injectors
Title: <i>Annex XI to the Implementing Arrangement between Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Fusion Research and Development for the DOE-JAERI Collaboration on the Testing of Negative Ion Sources and Accelerators for Neutral Beam Injectors</i>							
Comment: Perform joint experiments using the test facilities at LBL and JAERI to optimize the production and acceleration of hydrogen and deuterium negative ion beams, which would be applicable to the next generation of fusion experimental devices. VISITS AND ASSIGNMENTS: Yes DURATION: To Be Determined DOE/HQ Contact: Michael Roberts, ER-52; (301) 353-3068; FTS: 233-3068							
9/26/1985	12/31/1991	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Reactor Shielding
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in a Joint Program of Reactor Shielding Research</i>							
Comment: CONDUCT OF SHIELDING MEASUREMENTS							
2/10/1979	12/31/1982	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Safety
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation, Japan I the Area of Reactor Safety in Liquid Metal Cooled Fast Breeder Reactors</i>							
Comment:							
11/14/1979	12/31/1982	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Fuel Development
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation, Japan in the Area of Fuel Development in Liquid Metal Cooled Fast Breeder Reactors</i>							
Comment: SMA on Fuel Performance and Power-to-Melt							
12/26/1979	12/31/1981	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Dosimetry
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation, Japan in the Area of Cooperative Materials Dosimetry for Liquid Metal Cooled Fast Breeder Reactors</i>							
Comment:							
3/11/1980	12/31/1982	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Fuel Performance
Title: <i>Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation, Japan in the Area of Fast Reactor Mixed Oxide Fuel Performance Codes</i>							
Comment:							
11/8/1983	5/1/2005	In Force	Secondary DOE	True	Primary DOE	Fusion Energy	Fusion Research and Development - JAERI
Title: <i>Implementing Arrangement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Fusion Research and Development</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Appoint coordinators to report to Fusion Committee and to cooperate in such areas as plasma-containment devices, such as tokamaks; joint research related to plasma physics; magnetic fusion concepts; magnetic systems for fusion devices; plasma engineering; fusion-reactor materials; fusion-systems engineering; environmental and safety aspects of fusion energy; plasma diagnostics and vacuum technology; and applications of fusion energy.							
3/1/1984	12/31/1988	Completed	Secondary DOE	False	Primary DOE	Nuclear Energy	Tritium Handling at TSTA
Title: <i>Exchange of Letters establishing the Agreement for Collaborative Program for the development of tritium handling components</i>							
Comment:							
7/17/1987	7/19/2001	In Force	Secondary DOE	True	Primary DOE	Fusion Energy	Annex 1 - Irradiation Effects Utilizing Fission Reactor
Title: <i>Annex 1 to 01/25/83 exchange of letters between Japan Ministry of Education (Monbusho) and USDOE on cooperation in fusion R&D for collaboration in fundamental studies of irradiation effects in fusion materials utilizing fission</i>							
Comment: JOINT IRRADIATION AND EVALUATION EXPERIMENTS ON MATERIALS							
12/12/1988	12/21/2003	In Force	Secondary DOE	True	Primary DOE	Fusion Energy	Annex 2 - Data Link & Data Link Projects for Fusion
Title: <i>Annex II to the January 25, 1983 Exchange of Letters between Monbusho of Japan and the Department of Energy of the United States on Cooperation in Fusion Research and Development Monbusho-DOE Collaboration on a data Link and Data Link Projects for Fusion</i>							
Comment: STEERING COMMITTEE MEETING							
2/9/1982	12/31/1987	Completed	Secondary DOE	False	Primary DOE	Fusion Energy	Rotating Target Neutron Source
Title: <i>Exchange of Letters between DOE and Monbusho on the Rotating Target Neutron Source (RTNS-II) Cooperative Project</i>							
Comment:							
3/29/1983	12/31/1987	Expired	Secondary DOE	False	Primary DOE	High Energy Physics	Neutron Scattering - ISSP
Title: <i>Arrangement between the United State Department of Energy and the Institute for Solid State Physics, University of Tokyo on Cooperation in Research in the Area of Neutron Scattering</i>							
Comment: remains in force for the duration of the DOE/Monbusho Implementing Arrangement on Neutron Scattering							
4/26/1984	4/26/1989	Expired	Secondary DOE	False	Primary DOE	Electric Field Effects	CRIEPI - Electric Field Effects
Title: <i>Arrangement between the Department of Energy of the United States of America and the Central Research Institute of the Electric Power Industry of Japan in the Area of Electric Field Effects</i>							
Comment:							
3/30/1990	9/15/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 4 - Authentication & Identification of MOX Fuel
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corp of Japan (PNC), the parties, for Joint Development of Authentication Technologies and Item Identification Safeguards Techniques for Automated Production of Mixed Uranium-Plutonium Oxide (MOX) Fuel</i>							
Comment: Development of activities and, in particular, application of authenticated item identification system to the temporary plutonium storage in PFPF. The work performed under this SMA shall be performed at the Sandia National Laboratories and the Japan PFPF. VISITS AND ASSIGNMENTS: Yes DURATION: To Be Determined DOE/HQ CONTACT: Kenneth Sanders, AN -30; (202) 586-7592							
3/31/1990	9/15/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 5 - Pu Isotopic & Concentration for Chemical Process
Title: <i>Specific Memorandum of Agreement (SMA) between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for a Joint Research and Development Study of Plutonium (Pu) Isotopic and Concentration Measurements for Chemical Processing Plant Input Accountability Tank Solutions by Gamma Measurement of Resin Bead Samples</i>							
Comment: Cooperative effort in Pu isotopic and concentration measurement for input accountability tank solutions by gamma measurement of resin bead samples. Original term was for 9 months							
3/31/1990	6/30/1991	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 6 - Fissile Inventory Verifi. Isotope Dilution Tech.
Title: <i>Specific Memorandum of Agreement (SMA) between the Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for a Joint Research and Development Study of Fissile Inventory Verification of Reprocessing holding tanks Using Isotope Dilution Techniques</i>							
Comment: Cooperative effort in the development of a tank volume and fissile material measurement method involving a lutetium double spike isotope dilution mass spectrometry (IDMS) technique and conventional IDMS techniques using uranium and plutonium. VISITS AND ASSIGNMENTS: Yes DURATION: To Be Determined DOE/HQ CONTACT: Kenneth Sanders, AN-30; (202) 586-7592							
7/23/1990	9/15/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 7 - NDA Tech Process Holdup Pu Conversion Development

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Development of Remote-Controlled Nondestructive Assay Safeguards Techniques for Process Holdup in Pu Conversion Development Facility (</i>							
Comment: Development and application of a remote-controlled NDA system for plutonium holdup to the process equipment in the PNC Plutonium Conversion Development Facility (PCDF). The work will be performed at LANL, and the PCDF. Original term was for 2 years							
1/25/1991	9/15/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 8 - Safeguards Techniques for Monitors -- JOYO Reactor
Title: <i>Specific Memorandum of Agreement (SMA) between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Development of Remote-Controlled Safeguards Techniques for the Monitors for the JOYO Reactor</i>							
Comment: Development of software and application of remote-controlled monitors for fresh and spent fuel assemblies for the JOYO Reactor. LANL will perform the work for DOE. Original terms was for 2 years							
1/31/1991	9/15/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 9 - Safeguards Techniques for Monitors -- MONJU Reactor
Title: <i>Specific Memorandum of Agreement (SMA) between the United States Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Development of Remote-Controlled Safeguards Techniques for Monitors for the MONJU Reactor</i>							
Comment: ACQUISITION OF GRAND ELECTRONICS & ASSOC. COMP. & LEVEL OF SOFEWARE FOR SAFEGUARD SYSTEM. Original terms was for 2 years							
3/26/1991	9/15/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA 10 - Pu Storage by Passive Gamma Spectroscopy
Title: <i>Specific Memorandum of Agreement (SMA) between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) specific for Joint Development of Plutonium Concentration and Isotopic Composition Measurements for Plutonium Storage by Passive Gamma Spectroscopy 73)</i>							
Comment: TECH. INTERCHANGE ON 1) UPGRADE OF EXISTING AND 2) DEVELOPMENT OF NEW INTRINSIC K-EDGE DENSITOMER. Original term was for 2 years							
9/2/1993	9/2/1995	Expired	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	SMA 13 - Fuel Pin...MOX Fuel Fabrication Facility
Title: <i>Specific Memorandum of Agreement (SMA 13) between the United States Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Studies of Conceptual Design and Prototype Detector Development of Fuel Pin Measurement Techniques for a Mixed Fuel Fabrication Facility</i>							
Comment:							
9/2/1993	9/2/1995	Expired	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	SMA 14 - Video Motion Detection... PFPF Product Storage
Title: <i>Specific Memorandum of Agreement 14 (SMA 14) between the United States Department of Energy (DOE) and the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Video Motion Detection Authentication System for the Plutonium Fuel Production Facility (PFPF) Product Storage Area</i>							
Comment: The work shall be performed at SNL and the PFPF.							
11/16/1990		Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 1 - Advanced Containment and Surveillance (JAERI)
Title: <i>Action Sheet 1 Advanced Containment and Surveillance</i>							
Comment:							
2/24/1997	2/24/1999	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 27 - NDA for Low Activity Solid Wastes
Title: <i>Action Sheet 27 between The Department of Energy (DOE) for and The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Study of Nondestructive Assay Techniques for Low Activity Solid Wastes</i>							
Comment:							
2/24/1997	8/24/1999	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 28 - RETF Safeguards System
Title: <i>Action Sheet 28 between The Department of Energy (DOE) for and The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Study of the Conceptual Design for the RETF Safeguards System</i>							
Comment:							
3/5/1997	3/5/2000	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 29 - PFPF remote Monitoring and Item Identification System (PNC)
Title: <i>Action Sheet 29 The United States Department of Energy (DOE) and The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for PFPF Remote Monitoring and Item Identification System</i>							
Comment:							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
4/23/1998	4/23/2001	In Force	Secondary DOE	True	Primary DOE	High Energy Physics	Collaborative program for target development for high power spallation neutron sources
Title: <i>Specific Memorandum of Agreement between the Japan Atomic Energy Research Institute and the Department of Energy of the United States of America for Collaborative Program of Target Development for High Power Spallation Neutron Sources</i>							
Comment: Work will be preformed at the Alternating Gradient Synchrotron facility at Brookhaven National Laboratory							
8/3/1978	12/31/1981	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Physics
Title: <i>Memorandum of Understanding on Cooperation between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation, Japan, in a Joint Physics Large Core Critical Experiments Program</i>							
Comment: Phase I and II. Phase III would be a separate MOU.							
2/10/1982	12/31/1983	Completed	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Safety
Title: <i>Agreement between the Department of Energy of the United States and the Power Reactor and Nuclear Fuel Development Corporation of Japan in the Field of LMFBR Safety</i>							
Comment: Provide for joint development and validation of a safety analysis computer code							
5/14/1982	12/31/1985	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Physics
Title: <i>Memorandum of Understanding on Cooperation between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation, Japan, in a Joint Physics Large Heterogeneous Core Critical Experiments Program</i>							
Comment:							
6/11/1987	6/11/2001	In Force	Tertiary DOE	True	Secondary DOE	Fusion Energy	Annex 4 - Fusion - Fuel Processing
Title: <i>Annex IV to the Implementing Arrangement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program Technology for Fusion-Fuel Processing</i>							
Comment: Define, conduct, evaluate the joint operation/experiments on fusion fuel technology with TSTA at LANL for the purposes of developing and demonstrating fuel process technology for fusion power systems; developing/testing environmental/personnel protective systems for tritium handling; developing/testing/qualifying equipment and material for tritium services in the fusion energy program, etc.							
5/19/1988	5/19/1993	Terminated	Tertiary DOE	True	Secondary DOE	Fusion Energy	Annex 5 - Superconducting Poloidal Coil Technology (JAERI)
Title: <i>Annex V to the Implementing Arrangement between the Japan Atomic Energy Research Institute (JAERI) and U.S. Department of Energy on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program in the Development of Superconducting Poloidal Coil Technology</i>							
Comment: TAKE PART IN TEST OF JAPANESE COIL							
5/19/1988	5/31/1992	Completed	Tertiary DOE	True	Secondary DOE	Fusion Energy	Annex 6 - MTX Project of FEL Microwave Heating in MFE (JAERI)
Title: <i>Annex VI to the Implementing Arrangement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program in the Microwave Tokamak Experiment (MTX) Project of Free Electron Laser (FEL) Microwave Heating and Current Drive Applications to Magnetic Fusion</i>							
Comment: COLLABORATIVE WORK ON MICROWAVE HEATING OF PLASMAS							
1/9/1989	1/31/1992	Completed	Tertiary DOE	False	Secondary DOE	Fusion Energy	Annex 7 - Tube Test w/JT-60 ICRF System
Title: <i>Annex VII to the Implementing Arrangement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Fusion Research and Development for the JAERI-DOE Collaborative Program on the New Tube Test with the JT-60 ICRF System</i>							
Comment: Description not available in History							
2/10/1989	2/28/1990	Completed	Tertiary DOE	False	Secondary DOE	Fusion Energy	Annex 8 - Test Negative Ion Source Neutral Beam Injectors
Title: <i>Annex 8 to the Implementing Arrangement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program on the Testing of a Negative ion Source for Neutral Beam Injectors</i>							
Comment: Description not available in History							
1/27/2000	1/27/2005	In Force	Primary DOE	True		Arms Control and Nonproliferation	DOE/JNC Safeguards Agreement
Title: <i>Agreement between the Department of Energy of the United States of America and the Japan Nuclear Cycle Development Institute For Cooperation in Research and Development (R&D) Concerning Nuclear Material Control and Accounting Measures for Safeguards and Nonproliferation</i>							
Comment: Improving the efficiency and effectiveness of equipment and techniques for safeguards and nonproliferation to implement policies and procedures pursuant to the non-proliferation treaty.							
1/27/2000	1/27/2002	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 44 - Dry Reprocessing Methods

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Action Sheet 44 between The Japan Nuclear Cycle Development Institute (JN) and The United States Department of Energy (DOE) for A Joint Study of Safeguards Systems for Dry Reprocessing Methods</i>							
Comment:							
1/27/2000	1/27/2003	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 45 Remote Monitoring System at PFPF
Title: <i>Action Sheet 45 between The United States Department of Energy (DOE) and The Japan Nuclear Cycle Development Institute (JNC) for Development of the Integrated Remote Monitoring System at the Plutonium Fuel Production Facility in Japan</i>							
Comment:							
7/27/1999	3/31/1999	Completed	Tertiary DOE	True	Secondary DOE	Arms Control and Nonproliferation	Action Sheet 14 - Design of a Clean Chemistry Laboratory
Title: <i>Action Sheet 14 between the United States Department of Energy (DOE) and the Japan Atomic Energy Research Institute (JAERI) for Basic Design, Final Design, and Construction Protocol of a Clean Chemistry Laboratory at JAERI</i>							
Comment:							
7/10/2002	7/10/2005	In Force	Primary DOE	True		Civilian Radioactive Waste Management	Nuclear Waste Management Organization Agreement (NUMO)
Title: <i>Agreement between the Department of Energy of the United States of America and the Nuclear Waste Management Organization of Japan in the Field of Radioactive Waste Management</i>							
Comment:							
6/10/2004	6/10/2009	In Force	Secondary DOE	True		Nuclear Energy	Annex - 1 bet. DOE and ANRE of Japan
Title: <i>Annex 1 to the Implementing Arrangement between the Department of Energy of the United States of America and the Agency of Natural Resources and Energy of Japan Concerning Cooperation in the Joint Nuclear Energy Research Initiative On advanced Nuclear Technologies</i>							
Comment:							
8/20/2004	8/20/2009	In Force	Primary DOE	True		Science and Technology	
Title: <i>Amendment VI to the Agreement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Doublet III Project</i>							
Comment:							
1/11/2005	9/30/2005	In Force	edit test	True		Fusion Energy	Amendment No. 3 to Annex IX
Title: <i>Amendment No. 3 to the Annex IX to the Implementing Arrangement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program on the Data Link</i>							
Comment:							
1/17/2001	7/19/2007	In Force	Secondary DOE	True	Primary DOE	Fusion Energy	Amendment 4 - Annex 1 Fusion Research and Development
Title: <i>Amendment 4 of Annex I to the DOE - Monbusho Exchange of Letters on Cooperation in Fusion Research and Development</i>							
Comment:							
8/5/1993	7/28/1994	Completed	Tertiary DOE	False	Secondary DOE	Civilian Radioactive Waste Management	FY 93 Scope of Work for Development of Fundamental Thermodynamic and Adsorption Data
Title: <i>Joint Statement of Work for the Annex to the PNC-DOE Agreement Development of Fundamental Thermodynamic and Adsorption Data</i>							
Comment:							
12/21/1994	12/21/1995	Completed	Tertiary DOE	False	Secondary DOE	Civilian Radioactive Waste Management	FY 94 Scope of Work for Development of Fundamental Thermodynamic and Adsorption Data
Title: <i>Attachment to Joint Work State for the Annex to the PNC-DOE Agreement: Development of Fundamental Thermodynamic and Adsorption Data FY 1994 Scope of Work</i>							
Comment:							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
4/30/1996	3/31/1997	Completed	Tertiary DOE	False	Secondary DOE	Civilian Radioactive Waste Management	FY 96 Scope of Work for Development of Fundamental Thermodynamic and Adsorption Data
Title: <i>Attachment to Joint Work Statement for the Annex to the PNC-DOE Agreement: Development of Fundamental Thermodynamic and Adsorption Data FY 1996 Scope of Work</i> Comment:							
4/1/1984	12/31/1984	Completed	Tertiary DOE	False	Secondary DOE	Nuclear Energy	Equipment Loan Agreement
Title: <i>Equipment Loan Agreement between Martin Marietta Energy Systems, Inc. and the Power Reactor and Nuclear Fuel Development Corporation of Japan Incident to a Remote Systems Technology Test Program at the Oak Ridge National Laboratory</i> Comment: Effective as long as the Remote Systems Technology Test Program							
11/8/1983	3/31/2004	In Force	Tertiary DOE	True	Secondary DOE	Fusion Energy	Annex 1 - First Wall and Blanket Structural Materials
Title: <i>Annex I to Implementing Arrangement between Japan Atomic Energy Research Institute and U.S. Department of Energy on Cooperation in Fusion Research and Development U.S.-Japan Collaborative Testing of First Wall and Blanket Structural Materials with Mixed Spectrum Fission Reactors</i> Comment: JOINT IRRADIATION EXPERIMENTS AND EVALUATION OF RESULTS.							
10/9/1984	10/23/1993	Expired	Tertiary DOE	True	Secondary DOE	Fusion Energy	Annex 2 - Fusion - Blanket Neutronics
Title: <i>Annex II to Implementing Arrangement between the Japan Atomic Energy Research Institute (JAERI) and United States Department of Energy (DOE) on Cooperation in Fusion Research and Development JAERI-DOE Collaboration on Fusion Blanket Neutronics</i> Comment: JOINT EXPERIMENTS ON ADVANCED BLANKET MODULES							
11/10/1986	11/10/1990	Expired	Tertiary DOE	False	Secondary DOE	Fusion Energy	Annex 3 - Fuel Cleanup System at TST
Title: <i>Annex III to the Implementing Arrangement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program in Development of Improved Components for the Fuel Cleanup System of the Tritium Systems Test Assembly</i> Comment: Test at TSTA two process-ready components, the palladium diffuser, and the ceramic electrolysis cell, designed and manufactured by JAERI for the purpose of developing improved components for the fuel cleanup system which would be applicable to the next generation of fission experimental devices.							
7/17/1998	7/17/2000	In Force	Secondary DOE	True	Primary DOE	Civilian Radioactive Waste Management	Project Annex on Engineered Barriers
Title: <i>Project Annex for Cooperation in Near-Field Performance and Analyses on the Long-Term Behavior of the Engineered Barriers under the Agreement between the Department of Energy of the United States of America and the Power Reactor and Nuclear Fuel Development Corporation Japan in the Area of Radioactive Waste Management</i> Comment:							
2/14/1997		Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 11 - Clean Lab Project (JAERI)
Title: <i>Action Sheet 11 between The United States Department of Energy (DOE) and The Japan Atomic Energy Research Institute (JAERI) for Establishment of a Planning and Coordination Group to Oversee the Clean Laboratory Project of JAERI for Environment Sample Analysis</i> Comment:							
2/24/1997	2/24/1999	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 31 - Improvement of Dual Safeguards System (PNC)
Title: <i>Action Sheet 31 between The Department of Energy (DOE) for and The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Improvement of Dual Safeguards System at Monju EVST</i> Comment:							
12/8/1997	12/8/1999	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 32 - Automated Controlled-Potential Coulometer
Title: <i>Action Sheet 32 between the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and the United States Department of Energy (DOE) for Automated Controlled-Potential Coulometer</i> Comment:							
3/18/1998	3/31/2000	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 33 - Remote Monitoring System
Title: <i>Action Sheet 33 between the Japan Nuclear Cycle Development Institute (JNC) and the United States Department of Energy (DOE) for Remote Monitoring Systems for Nuclear Nonproliferation</i> Comment:							
3/2/1998	3/2/2000	Completed	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 34 - Remote Monitoring and Transparency

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Action Sheet 34 between the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and the United States Department of Energy (DOE) for Personnel Exchange on Remote Monitoring and Transparency</i>							
Comment:							
2/19/1998	2/19/2000	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 35 - NDA at Ningyo Plant
Title: <i>Action Sheet 35 between the Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) and the United States Department of Energy (DOE) for Feasibility Study of NDA Technique for Holdup Measurements at Ningyo Enrichments Plant (Phase-I)</i>							
Comment:							
3/13/1998	10/13/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 36 - MAGB at PFPF (Phase-I)
Title: <i>Action Sheet 36 between the Power Reactor and Nuclear Fuel Development Corporation Japan (PNC) and the United States Department of Energy (DOE) for Conceptual Design of Plutonium Isotopic Measurements for Containers in Advanced MAGB at PFPF (Phase-I)</i>							
Comment:							
12/18/1998	12/18/2001	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 37 - A-MAGB at Plutonium Fuel Production Facility
Title: <i>Action Sheet 37 between the United States Department of Energy (DOE) and the Japan Nuclear Cycle Development Institute (JNC) for Development of Plutonium Isotopic Systems for Measuring Containers in the Advanced Material Accountancy Glove Box at PFPF</i>							
Comment:							
12/18/1998	12/18/2001	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 38 - Remote Monitoring for Tokai
Title: <i>Action Sheet 38 between the United States Department of Energy (DOE) and the Japan Nuclear Cycle Development Institute (JNC) for Development of Remote Monitoring for Tokai Vitrification Facility Safeguards System</i>							
Comment:							
3/12/1999	3/12/2002	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 39 - Radiation Sensor Monitors at Monju
Title: <i>Action Sheet 39 between The United States Department of Energy (DOE) and The Japan Nuclear Cycle Development Institute (JNC) for Development of Radiation Sensor Monitors to Improve Dual C/S at Monju Reactor Core</i>							
Comment:							
3/22/1999	3/22/2002	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 40 - Isotope Dilution Gamma-Ray Spectrometry
Title: <i>Action Sheet (40) between The United States Department of Energy (DOE) and The Japan Nuclear Cycle Development Institute (JNC) for Joint Research and Development Study of the Metrology of the Isotope Dilution Gamma-Ray Spectrometry (IDGS)</i>							
Comment:							
3/24/1999	9/24/2000	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 41 Conceptual Design for RETF Safeguards System Phase 2.
Title: <i>Action Sheet 41 between The Japan Nuclear Cycle Development Institute (JNC) And The United States Department of Energy (DOE) For Joint Study on the Conceptual Design for the RETF Safeguards System (Phase-2)</i>							
Comment:							
1/27/2000	1/27/2003	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 43 NDA Techniques at Ningyo
Title: <i>Action Sheet 43 between The United States Department of Energy (DOE) and The Japan Nuclear Cycle Development Institute (JNC) for Design Studies and Development of NDA Techniques for In-Process and Waste Invention at the Ningyo Enrichment Plant</i>							
Comment:							
6/9/1997	6/9/2007	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA - Safeguards
Title: <i>Specific Memorandum of Agreement Between the Japan Atomic Energy Research Institute and the Department of Energy of the United States of America Concerning Research and Development in Nuclear Material Control, Accountancy, Verification and Physical Protection</i>							
Comment:							
6/9/1997	6/9/1999	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	SMA - Communications Link
Title: <i>Specific Memorandum of Agreement between the Department of Energy of the United States of America and the Japan Atomic energy Research Institute for a Collaborative Program of Development of a Prototype Communications Link to Share Atmospheric Dispersion and Dose Assessment Modeling Products</i>							
Comment:							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
2/19/1997	5/19/2000	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 30 - Randomized Inspection (PNC)
Title: <i>Action Sheet PNC 30 The United States Department of Energy (DOE) and The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Study of Improved Safeguards Methodology Using Non-Notice Randomized Inspection</i>							
Comment:							
5/12/1992	5/12/1997	Renegotiated	Primary DOE	False	Intergovernmental	Human Genome Analysis	Human Genome Analysis
Title: <i>Implementing Arrangement between the Science and Technology Agency of Japan and the National Institutes of Health of the United States of America and the Department of Energy of the United States of America on Cooperation regarding the genome data Base (GDB) Project in Support of the Human Genome Analysis</i>							
Comment:							
8/22/2000	8/22/2005	In Force	Primary DOE	True		Nuclear Energy	Agreement for Nuclear Technologies
Title: <i>Agreement Between The Department of Energy of the United States of America and The Japan Nuclear Cycle Developments Institute in the Field of Nuclear Technologies.</i>							
Comment:							
5/25/2004	5/25/2009	In Force	Primary DOE	True		Nuclear Energy	Arrangement bet. DOE and ANRE of Japan
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Agency of Natural Resources and Energy of Japan Concerning Cooperation in the Joint Nuclear Energy Research Initiative</i>							
Comment:							
3/19/2003	3/19/2008	In Force	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: <i>Agreement between the Department of Energy of the United States of America and the Japan Nuclear Cycle Development Institute in the Field of Radioactive Waste Management</i>							
Comment:							
8/18/2000	8/18/2005	Completed	edit test	True		Fusion Energy	Amendment V to the Agreement bet. JAERI and DOE
Title: <i>Amendment V to the Agreement Between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Doublet III Project</i>							
Comment:							
8/18/2000	8/18/2005	In Force	edit test	True		Fusion Energy	Amendment V
Title: <i>Amendment V to the Agreement between the Japan Atomic Energy Research Institute and the United States Department of Energy on Cooperation in Doublet III Project</i>							
Comment:							
1/8/2004	1/8/2008	In Force	Statement of Intent	False		Science and Technology	Joint SOI bet. DOE and the Ministry of Economy, Trade and Industry of Japan
Title: <i>Joint Statement of Intent between the Ministry of Economy, Trade and Industry of Japan and the Department of Energy of the United States of America concerning Scientific and Technological Cooperation in the Area of Hydrogen and Fuel Cells</i>							
Comment:							
11/5/2001	11/5/2003	In Force	Primary DOE	True			Specific MOU bet. JAERI and DOE
Title: <i>Specific Memorandum of Agreement Between the Japan Atomic Energy Research Institute and the Department of Energy of the United States of America for Collaboration on Neutron Beam Line Shield Experiment for Spallation Neutron Source</i>							
Comment:							
3/29/2004	3/29/2009	In Force	Secondary DOE	True			Amendment IV of Annex I
Title: <i>Amendment IV to the Annex I to the Implementing Arrangement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Fusion Research and Development U.S./Japan Collaborative Testing of First Wall and Blanket Structural Materials with Mixed Spectrum Fission Reactors</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment:							
3/31/1988	9/30/1998	Expired	Primary DOE	True		Arms Control and Nonproliferation	R&D Nuclear Mat Control & Accounting for Safeguard
Title: <i>Agreement between Power Reactor and Nuclear Fuel Development Corporation (PNC) of Japan and the U.S. Department of Energy for cooperation in research and development concerning nuclear material control and accountability measures for safeguards</i>							
Comment: PERMANENT COORDINATING GROUP MEETING, OCTOBER 1991							
5/22/1987	9/30/1990	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Annex 4 - Graphite Materials Development Testing
Title: <i>Annex to the Implementing Arrangement between the United States Department of Energy and the Japan Atomic Energy Research Institute on Cooperation in Research and Development in the area of High Temperature Gas-Cooled Reactors. Annex 4: collaborative Program for Metals Development and Testing</i>							
Comment: EXCHANGE OF HTGR METALS TECHNOLOGY DATA							
1/22/1985	12/31/1988	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	LMFBR Database & Database Management System
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the Power Reactor and Nuclear Fuel Development Corporation of Japan in the area of a Cooperative Program for the Development of a Centralized LMFBR Component Reliability Data Base and Data Base Management System</i>							
Comment:							
3/14/1983	12/31/1987	Expired	Secondary DOE	False	Primary DOE	High Energy Physics	Neutron Scattering - JAERI
Title: <i>Arrangement between the United States of Energy and the Japan Atomic Energy Research Institute on Cooperation in Research in the Area of Neutron Scattering</i>							
Comment: Remains in force as long as the DOE/STA Implementing Arrangement in Neutron Scattering remains in force							
2/24/1997	2/24/2000	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 26 - NDA for Leached Hulls
Title: <i>Action Sheet 26 between The Department of Energy (DOE) for and The Power Reactor and Nuclear Fuel Development Corporation of Japan (PNC) for Joint Development of a Nondestructive Assay System for Leached Hulls</i>							
Comment:							
1/27/2000	7/27/2001	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 42 Measurement Methods for Scrap Materials
Title: <i>Action Sheet 42 between The Japan Nuclear Cycle Development Institute (JNC) and The United States Department of Energy (DOE) For Investigation of Measurements Methods for Scrap Materials with High Impurities</i>							
Comment:							
1/19/2005	1/19/2010	In Force	Primary DOE	True		Nuclear Energy	Implementing Arrangement bet. DOE and (MEXT) of Japan
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Education, Culture, Sports, Science and Technology of Japan concerning Cooperation in the Field of Research and Development of Innovative Nuclear Energy Technologies</i>							
Comment:							
5/1/2005	10/1/2005	In Force	Extension	True		Energy Research and Development	Extending agreement bet. US and Japan
Title: <i>Protocol Extending the Agreement between the Government of the United States of America and the Government of Japan on Cooperation in Research and Development in Energy and Related Fields</i>							
Comment:							
7/6/2004	7/6/2009	In Force	Extension	True		Environmental Management	Extension - MOA bet. DOE and JAERI
Title: <i>Extension of Specific Memorandum of Agreement Between the Department of Energy of the United States of America and Japan Atomic Energy Research Institute on Decontamination and Decommissioning of Nuclear Facilities</i>							
Comment:							
9/2/2002	9/2/2005	In Force	Primary DOE	True			Agreement bet. DOE and the Japan Atomic Energy Research Institute
Title: <i>Specific Memorandum of Agreement between the Department of Energy of the United States of America and the Japan Atomic Energy Research Institute on Cooperation in the Field of Synchrotron Radiation Research</i>							
Comment:							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Country: Kazakhstan

7/12/1996		In Force	Primary DOE	True		Science and Technology	Energy R&D and Tech exchange
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Science-Academy of Sciences of the Republic of Kazakhstan on Scientific Research and Development and Technology Exchange Programs</i>							
Comment:							
12/19/2000		In Force	Primary DOE	True		Arms Control and Nonproliferation	Decommissioning of the BN-350 Reactor
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Energy, Industry and trade of the Republic of Kazakhstan Concerning Decommissioning of the BN-350 Reactor</i>							
Comment:							
5/13/1997		In Force	Secondary DOE	True	Primary DOE	Remote Sensing	Remote Sensing Mission
Title: <i>Annex 1 - For the Conduct of the Remote Sensing Mission (AMPS) in the Republic of Kazakhstan</i>							
Comment:							

Country: Korea, Republic of

7/28/1993	1/29/1999	Renegotiating	Intergovernmental	True		Science and Technology	Science & Technology
Title: <i>Agreement Relating to Scientific and Technical Cooperation between the Government of the United States of America and the Government of the Republic of Korea</i>							
Comment: Science and Technology agreement between the United States and the Government of the Republic of Korea which allows U.S. Government agencies to cooperate in their respective areas of expertise. Signed on January 6, 1992, entered into force on July 29, 1993. Extended for six months until 1/28/99 to allow for renegotiations of the IPR section (annex I)							
6/14/1996	6/14/2001	In Force	Primary DOE	True		Nuclear Energy	Cooperative Laboratory Relationship
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for a Cooperative Laboratory Relationship</i>							
Comment: Cooperate in the field of peaceful uses of nuclear energy including such areas as: nuclear waste management; nuclear safety and environment; nuclear safeguards technology; basic sciences; education; health physics; environmental research related to nuclear technology, etc							
6/14/1996	6/14/2001	In Force	Primary DOE	True	Intergovernmental	Fusion Energy	Fusion Energy Research and Related Fields
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for Cooperation in the Area of Fusion Energy Research and Related Fields</i>							
Comment: Promote S&T cooperation in fusion energy research and related fields in order to enhance contributions. Remains in force for 5 years or until termination of the S&T Agreement, whichever occurs first.							
11/6/1981	11/6/1991	Completed	Primary DOE	True		Fossil Energy	Coal R&D
Title: <i>Memorandum of Understanding between the United States Department of Energy the Korean Ministry of Science and Technology Providing for a Cooperative Laboratory Relationship Among the U.S. Department of Energy Pittsburgh Energy Technology Center the Korea Institute of Energy and Resources and the Korea Advanced Institute of Science and Technology</i>							
Comment: Exchange of technical information, visits & assignments & technical consultations							
11/6/1981	11/6/1991	Completed	Primary DOE	True		Energy Efficiency and Renewable Energy	Conservation
Title: <i>Memorandum of Understanding between the United States Department of Energy and the Korean Ministry of Science and Technology Providing for a Cooperative Laboratory Relationship between Argonne National Laboratory and the Korean Institute of Energy Resources</i>							
Comment:							
12/18/1979	12/31/1984	Expired	Primary DOE	True		Nuclear Energy	Nuclear--Sister Labs
Title: <i>Memorandum of Understanding between the U.S. Department of Energy and the Ministry of Science, Republic of Korea providing for a cooperative Laboratory Relationship among Argonne National Laboratory, the Korean Advanced Energy Research Institute</i>							
Comment:							
10/25/1994	10/25/1999	Expired	Primary DOE	True	Intergovernmental	Energy Efficiency and Renewable Energy	Solar Energy Technology
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for Cooperation in the Area of Solar Energy Technology Research</i>							
Comment: Remains in force for 5 years or until termination of the S&T Agreement, whichever occurs first.							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
11/7/1995	11/7/1998	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 1 - Safeguards System for DUPIC - MOST
Title: <i>Action Sheet 1 between The U.S. Department of Energy (DOE) and The Ministry of Science and Technology (MOST) of the Republic of Korea for Cooperation on the Development and Implementation of a Safeguards System for DUPIC</i>							
Comment:							
9/17/2002	9/17/2007	In Force	Primary DOE	True		Science and Technology	Safeguards Agreement
Title: <i>Arrangement between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea Concerning Research and Development in Nuclear Material Control, Accountancy, Verification, Physical Protection, and Advanced Containment and Surveillance Technologies for International Safeguards Applications</i>							
Comment:							
11/6/1981	11/6/1991	Completed	Primary DOE	True		Energy Efficiency and Renewable Energy	Solar Energy
Title: <i>Memorandum of Understanding between the United States Department of Energy and the Korean Ministry of Science and Technology providing for a Cooperative Laboratory Relationship between the U.S. Department of Energy Solar Energy Research Institute and the Korea Institute of Energy and Resources</i>							
Comment:							
10/25/1994	10/25/1999	Expired	Primary DOE	True	Intergovernmental	Energy Research and Development	Conservation
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for Cooperation in the Area of Energy Conservation and Environmental Technology</i>							
Comment: Remains in force for 5 years or until termination of the S&T Agreement, whichever occurs first. No activities underway.							
6/13/1994	6/13/1999	Completed	Secondary DOE	True	Primary DOE	Fossil Energy	Annex I - Cooperative Institutional Relationship
Title: <i>Annex I to Implementing Arrangement No. 2 between Pittsburgh Energy Technology Center and Korea Institute of Energy Research and Korea Institute of Science and Technology</i>							
Comment: Remains in force for 5 years or until termination of the S&T Agreement, whichever occurs first.							
11/7/1997	11/7/1999	Expired	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 3 - Low Background Gamma Spectrometry
Title: <i>Action Sheet # 3 Safeguards Agreement between United States of America Department of Energy and Republic of Korea - Ministry of Science and Technology Low Background Gamma Spectrometry</i>							
Comment:							
11/7/1995	11/7/1997	Completed	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Action Sheet 2 - Human Resource Development for Nuclear Safeguards Inspection
Title: <i>Action Sheet 2 between The U.S. Department of Energy (DOE) and The Ministry of Science and Technology (MOST) of the Republic of Korea for Joint Collaboration on Development of Human Resource for Nuclear Safeguards Inspection</i>							
Comment:							
6/13/1994	6/13/1999	Completed	Primary DOE	True	Intergovernmental	Fossil Energy	Fossil Energy Technology
Title: <i>Implementing Arrangement No. 2 Between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for Cooperative Laboratory Relations between the Pittsburgh Energy Technology Center and the Korea Institute of Energy Research and the Korea Institute of Science and Technology in the Area of Fossil Energy</i>							
Comment: Promote technological and economic cooperation in the field of coal technology development to make positive contributions toward improving fossil energy technology. Remains in force for 5 years or until termination of the S&T Agreement, whichever occurs first.							
6/29/2000	6/29/2005	In Force	Secondary DOE	True	Primary DOE	Nuclear Energy	Annex 4 - Cintichem Process Technology (first project annex)
Title: <i>Annex 4 Joint Project on Cintichem Technology between the Department of Energy of the United States of America and the Korea Atomic Energy Research Institute under the Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for a Cooperative Laboratory Relationship</i>							
Comment:							
6/14/2001	6/14/2006	In Force	Secondary DOE	True	Primary DOE	Fusion Energy	Extension on the Implementing Arrangement between DOE and Korea
Title: <i>Agreement to Extend the Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for Cooperation in the Area of Fusion Energy Research and Related Fields</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment:							
9/15/2003	9/15/2008	In Force	Secondary DOE	True		Science and Technology	Annex VI - Innovative Fuel Cycles
Title: <i>Annex VI to the Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for a Cooperative Laboratory Relationship On a Collaborative Project Supporting Research and Development in the Field of Innovative Fuel Cycles</i>							
Comment:							
9/19/1994	9/19/1999	Completed	Primary DOE	True		Arms Control and Nonproliferation	International Safeguards
Title: <i>Arrangement between the United States Department of Energy and the Ministry of Science and Technology of the Republic of Korea Concerning Research and Development in Nuclear Material Control, Accountancy, Verification, Physical Protection and Advanced Containment and Surveillance Technologies for International Safeguards Applications</i>							
Comment: Need copy of arrangement							
5/16/2001	5/16/2006	In Force	Secondary DOE	True	Primary DOE	Nuclear Energy	Annex V - MOU between DOE and Ministry of Science and Technology of the Republic of Korea on I-NERI
Title: <i>Annex V to the Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for a Cooperative Laboratory Relationship on a Collaboration Project Supporting the International Nuclear Energy Research Initiative (INERI)</i>							
Comment:							
5/16/2001	6/14/2001	In Force	Secondary DOE	True	Primary DOE	Nuclear Energy	Amendment C to Annex III Participating Institutions to the MOU between DOE and Ministry Science and Technology
Title: <i>Amendment C to Annex III - Participating Institutions to the Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for a Cooperative Laboratory Relationship</i>							
Comment:							
2/2/2005		Completed	edit test	True		Nuclear Energy	Amendment to Annex V
Title: <i>Amendment to Annex V to the Memorandum of Understanding Between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for a Cooperative Laboratory Relationship On a Collaborative Project Supporting the International Nuclear Energy Research Initiative (I-NERI)</i>							
Comment:							
6/14/2001	6/14/2006	In Force	Secondary DOE	True	Primary DOE	Science and Technology	Extend and Amend MOU bet. DOE and MOST
Title: <i>Agreement to Extend and Amend the Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Science and Technology of the Republic of Korea for a Cooperative Laboratory Relationship</i>							
Comment:							
Country: Mexico							
6/15/1972		In Force	Intergovernmental	True		Science and Technology	Science & Technology
Title: <i>Agreement Between the United States of America and Mexico for Scientific and Technical Cooperation</i>							
Comment: Effected by Exchange of Notes Signed at Washington June 15, 1972							
6/20/1983	6/30/1990	Expired	Primary DOE	False		Fossil Energy	Petroleum-Sister Labs
Title: <i>Memorandum of Understanding for the Exchange of Technical Information and for Cooperation in the Field of Energy Research and Development between the Mexican Petroleum Institute of Mexico and the Department of Energy of the United States of America</i>							
Comment:							
3/25/1985	3/25/2005	In Force	Primary DOE	False		Arms Control and Nonproliferation	Sister Lab Arrangement
Title: <i>Memorandum of Understanding (MOU) for the Exchange of Technical Information and for Cooperation in the Field of Peaceful Uses of Nuclear Energy between the National Institute of Nuclear Research of Mexico and the Los Alamos National laboratory of the United States of America</i>							
Comment: Sister lab arrangement supporting Article IV of the NPT.							
1/1/1990		Completed	Primary DOE	True	Intergovernmental	Energy and Environment	Air Quality Research

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Memorandum of Understanding for the Exchange of Technical Information and For Cooperation in the Field of Air Quality Research Between the Department of Energy of the United States of America and the Mexican Petroleum Institute of the United Mexican States</i>							
Comment:							
4/1/1986	4/7/1994	Expired	Primary DOE	True		Energy Efficiency and Renewable Energy	Geothermal
Title: <i>Agreement Between the Department of Energy of the United States of America and the Comision Federal de Electricidad of the Mexican United States in the Field of Geothermal Energy</i>							
Comment: TECHNICAL DISCUSSIONS, JOINT RESEARCH							
7/21/1977	12/31/1982	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Geothermal
Title: <i>Agreement Between the Comision Federal de Electricidad of the United Mexican States and the U.S.A. Energy Research and Development Administration</i>							
Comment: Description not available in History							
5/7/1996	5/7/2001	In Force	Primary DOE	True	Intergovernmental	Energy Research and Development	Energy Cooperation
Title: <i>Agreement between the Department of Energy of the United States of America and the Secretariat of Energy of the United Mexican States for Energy Cooperation</i>							
Comment: Develop a framework for cooperation to facilitate establishment of cooperative activities in research, development and commercialization to promote improved use of renewable energy and energy efficiency and fossil energy technologies, giving due consideration to environmental concerns, as well as to exchange, develop, and analyze energy strategies and regulatory criteria and to encourage the promotion of energy trade opportunities.							
12/7/1999	5/7/2001	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 4- Clean Fossil Energy Technologies
Title: <i>Project Annex 4 Cooperation in the field of Clean Fossil Energy Technologies</i>							
Comment: Annex is in force as long as the Agreement is in force.							
6/10/1998	6/10/2001	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 1 - Renewable Energy
Title: <i>Project Annex 1 Cooperation in the Field of Renewable Energy</i>							
Comment: Project areas under discussion by SNL and CNEA (Mexico National Commission for Energy Savings)							
6/10/1998	6/10/2001	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 2 - Energy Efficiency
Title: <i>Project Annex 2 Cooperation in the Field of Energy Efficiency</i>							
Comment: Project areas under discussion.							
10/21/1998	10/21/2001	In Force	Secondary DOE	True	Primary DOE	Environmental Restoration and Waste Management	Annex 3 - Enviro Cooperation in hydrocarbons
Title: <i>Project Annex 3 - Environmental Cooperation in the Field of Hydrocarbons</i>							
Comment: Facilitating work between Mexico Institute of Petroleum and ORNL.							
5/30/1984	12/31/1986	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Computer Modeling and Mass Transport
Title: <i>Annex I to the Memorandum of Understanding for the Exchange of Technical Information and for Cooperation in the Field of Energy Research and Development between the Mexican Petroleum Institute of Mexico and the Department of Energy of the United States of America on Computer Modeling and Mass Transport in Geological Reservoirs as well as Research on High Temperature Geophysical Probes and Logging Instruments</i>							
Comment: Description not available in History							
5/30/1984	12/31/1986	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Chemical Process Modeling ASPEN
Title: <i>Annex II to the Memorandum of Understanding for the Exchange of Technical Information and for Cooperation in the Field of Energy Research and Development between the Mexican Petroleum Institute of Mexico and the Department of Energy of the United States of America on Chemical Process Modeling (ASPEN)</i>							
Comment: Description not available in History							
4/10/1995		Completed	Statement of Intent	False		Energy Research and Development	Energy Cooperation
Title: <i>Joint Statement of Intent between the Department of Energy of the United States of America and the Ministry of Energy of the United States of Mexico for Energy Cooperation</i>							
Comment: Joint Statement of Intent to agree and look for ways to pursue joint cooperative efforts in areas such as renewable energy, energy efficiency technologies, data analysis and forecasting, fossil fuels technologies, and establishing market-based systems.							
3/9/2001		In Force	Broad	False		Fifth Hemispheric Energy Ministers Meeting	Mexico Declaration
Title: <i>Fifth Hemispheric Energy Ministers Meeting Mexio City, Mexico - March 9, 2001. Mexico Declaration - Energy: A Crucial Factor for Integration and Sustainable Development in the Hemisphere</i>							
Comment:							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
5/7/2001	5/7/2006	In Force	Secondary DOE	True	Primary DOE	Science and Technology	
Title: <i>Extension of the Agreement for Energy Cooperation between the Department of Energy of the United States of America and the Secretariat of Energy of the United Mexican States, and its Four Annexes</i>							
Comment:							
Country: Morocco							
10/16/2000	10/16/2005	In Force	Primary DOE	True		Energy Efficiency and Renewable Energy	Agreement on Concerning Cooperation in Energy Efficiency and Renewable Energy
Title: <i>Agreement Between The Department of Energy of the United States of America and The Ministry of Industry, Commerce, Energy and Mines of the Kingdom of Morocco Concerning Cooperation in Energy Efficiency and Renewable Energy</i>							
Comment:							
10/16/2000	10/16/2005	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Project Annex I - EERE
Title: <i>Project Annex I to the Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce, Energy and Mines of the Kingdom of Morocco Concerning Cooperation in Energy Efficiency and Renewable Energy</i>							
Comment:							
6/3/2002	6/3/2007	In Force	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Project Annex 2 - Clean Energy Technologies
Title: <i>Project Annex 2 to the Agreement between the Department of Energy of the United States of America and the Ministry of Industry, Commerce, Energy and Mines of the Kingdom of Morocco Concerning Cooperation in Clean Energy Technologies</i>							
Comment:							
Country: Netherlands							
6/29/1982	6/29/1992	Expired	Primary DOE	False		Information and/or Personnel Exchange	Energy-Related Information
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Economic Affairs of the Netherlands</i>							
Comment: Exchange of energy related information							
10/11/1979	10/11/1984	Expired	Primary DOE	True		Nuclear Energy	Magnetohydrodynamics
Title: <i>Agreement between the United States Department of Energy and the Netherlands Energy Research Foundation in the field of Magneto hydrodynamic Electrical Power Generation</i>							
Comment: Cooperate in MHD							
10/11/1979	11/11/1984	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Closed-Cycle MHD
Title: <i>Subsidiary Agreement between the United States Department of Energy and the Netherlands Energy Research Foundation in Closed-Cycle Magnetohydrodynamic (CCMHD)</i>							
Comment: Work cooperatively to jointly advance the understanding of the CCMHD process							
Country: Nigeria							
7/23/1980		In Force	Statement of Intent	False		Energy Research and Development	Energy R&D
Title: <i>Memorandum of Intent Concerning Energy Cooperation between the Government of the United States of America and the Government of the Federal Republic of Nigeria</i>							
Comment: Exploit and use conventional sources of energy, develop effective machinery to monitor environmental effects of energy, develop and demonstrate technologies to utilize new and renewable energy sources, training in energy planning and technology and strengthen bilateral relations through increased official cooperation. Formal cooperation never establish							
8/14/1999		In Force	Primary DOE	False		Energy Policy	MOU on Energy Policy
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Federal Ministry of Power and Steel of the Federal Republic of Nigeria on Energy Policy</i>							
Comment:							
Country: Norway							
4/22/1987	4/22/1992	Expired	Primary DOE	True		Fossil Energy	Fossil Energy - Enhanced Oil Recovery
Title: <i>General agreement for fossil energy research and development between the U.S. Department of Energy and the Norwegian Ministry of Petroleum and Energy.</i>							
Comment: Exchange technical information and conduct complementary research regarding fossil energy R&D							
8/2/1990	4/22/1992	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 1 Absorption of Chemicals on Reservoir Rock

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Annex I to the USDOE - Norwegian Ministry of Petroleum and Energy agreement on fossil energy research and development in chemical enhanced oil recovery in the area of absorption of chemicals on reservoir rock</i> Comment: COOPERATIVE RESEARCH TASKS IN THE AREA OF ADSORPTION OF CHEMICALS ON RESERVOIR ROCK.							
8/2/1990	4/22/1992	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 2 Multitracer Tech Applied Petroleum Reservoir Study
Title: <i>Annex II to the US Department of Energy - Norwegian Ministry of Petroleum and Energy Agreement on Fossil Energy Research and Development in the area of Multitracer Technology Applied to Petroleum Reservoir Studies</i> Comment: Cooperate in multitracer technologies applied to petroleum reservoir studies							
8/2/1990	4/22/1992	Expired	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Annex 3- Geologic Reservoir DataBase Stochastic Modeling
Title: <i>Annex III to U.S. Department of Energy - Norwegian Ministry of Petroleum and Energy agreement on fossil energy research and development in the area of development of a geologic reservoir database for stochastic modeling</i> Comment: REVIEW GEOSTATISTICAL METHODOLOGIES							
5/23/2004	5/23/2009	In Force	Primary DOE	True		Energy Research, Development and Demonstration	MOU bet. DOE and Ministry of Petroleum and Energy
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Royal Ministry of Petroleum and Energy of the Kingdom of Norway on Collaboration in the Field of Energy Research, Development and Demonstration</i> Comment:							
Country: Pakistan							
9/24/1994		In Force	Statement of Intent	False		Climate Change	Climate Change
Title: <i>Joint Statement of Intent between the Department of Energy of the United States of America and the Environment and Urban Affairs Division of the Islamic Republic of Pakistan</i> Comment: Enhancing mutual environmental protection, in particular, controlling greenhouse gas emissions to limit potential adverse climate change impacts (Environment and Urban Affairs Division).							
9/24/1994		In Force	Statement of Intent	False		Fossil Energy	Statement of Intent w/ Ministry of Petroleum and Natural Resources
Title: <i>Statement of Intent between the Department of Energy of the United States of America and the Ministry of Petroleum and Natural Resources, Government of the Islamic Republic of Pakistan</i> Comment: Promoting trade, investment and cooperation between U.S. & Pakistan (Min of Petroleum and Natural Resources) public and private-sector entities in the fields of fossil fuels (petroleum and minerals, including coal) and new and renewable energy resources, related infrastructure development, and in the exchange of experience and views on opportunities in these sectors.							
9/24/1994		In Force	Statement of Intent	False		Energy Efficiency and Renewable Energy	Statement of Intent w/ Ministry of Water and Power
Title: <i>Statement of Intent between the Department of Energy of the United States of America and the Ministry of Water and Power of the Islamic Republic of Pakistan</i> Comment: Promoting trade, investment and cooperation between the U.S. and Pakistan (Ministry of Water and Power) private and public sector entities in the fields of fossil and renewable energy, and in the exchange of experience and views on opportunities for improving energy efficiency and enhancing electricity policy.							
Country: Palestinian Authority							
2/22/2000		In Force	Statement of Intent	False		Energy Research and Development	Energy Planning SOI
Title: <i>Joint Statement of Intent between the Department of Energy of the United States of America and the Palestinian Energy Authority on Cooperation in the Field of Energy</i> Comment:							
Country: Peru							
3/8/2001		In Force	Statement of Intent	False		Cooperation in the Field of Energy	Cooperation in the Field of Energy
Title: <i>Joint Statement of Intent between the Department of Energy of the United States of America and The Ministry of Energy and Mines of the Republic of Peru on Cooperation in the Field of Energy</i> Comment:							
6/17/1991	6/16/2001	In Force	Primary DOE	False		Arms Control and Nonproliferation	Sister Lab Arrangement
Title: <i>Arrangement for the Exchange of Technical Information and for Cooperation in the Field of Peaceful Uses of Nuclear Energy between the Peruvian Institute of Nuclear Energy and the Los Alamos National Laboratory</i> Comment:							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
8/14/2001	8/14/2006	In Force	Primary DOE	True		Science and Technology	MOU - Cooperation in the Field of Energy
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Peru on Cooperation in the Field of Energy</i>							
Comment:							
Country: Philippines							
6/19/1997	6/19/2002	In Force	Primary DOE	False		Information and/or Personnel Exchange	Info Exchange
Title: <i>Memorandum of Agreement between the Department of Energy of the United States of America and the Department of Energy of the Republic of the Philippines for the Exchange of Energy Information</i>							
Comment:							
1/13/2004	1/13/2009	In Force	Primary DOE	True			MOU among PDOE, DOE and USAID
Title: <i>Memorandum of Understanding among the Philippine Department of Energy, the United States Department of Energy, and the United States Agency for International Development for the Sustainable Energy Development Program</i>							
Comment:							
Country: Poland							
3/15/1990	3/15/1995	Expired	Primary DOE	True		Fossil Energy	Clean Coal Technology at Powerplant in Krakow
Title: <i>Agreement between the United States Department of Energy and the Ministry of Environmental Protection, Natural Resources, & Forestry and the Ministry of Industry and the City of Crakow of the Republic of Poland for Collaboration to Demonstrate an Emerging Retrofit of Clean Coal Technology at a Power Plant in Crakow Poland</i>							
Comment: Assess coal-fired plants in the Krakow region, select specific plant for retrofitting, select methods of emission control using U.S. clean coal technology, fabricate equipment, modify the existing boiler, install equipment and operate it as an example of a pattern solution for pollution control.							
9/28/1987	9/28/2002	In Force	Intergovernmental	True		Science and Technology	Science & Technology
Title: <i>Agreement between the Government of the United States of America and the Government of the Polish People's Republic on Cooperation in Science and Technology and its Funding</i>							
Comment: Develop, support and facilitate S&T cooperation on the basis of the principles of equality, reciprocity, and mutual benefit. Joint projects of mutual interest are funded by a fund contributed to by the two governments. Renewed last in 1997.							
10/16/1991	10/16/1996	Renegotiated	Primary DOE	True		Fossil Energy	Krakow Clean Fossil Fuels and Energy Efficiency
Title: <i>Memorandum of Understanding between the United States Department of Energy and the Ministry of Environmental Protection, Natural Resources, and Forestry of Poland for Collaboration on the Krakow Clean Fossil Fuels and Energy Efficiency Project a Project of Elimination of Low Emission Sources in Krakow</i>							
Comment: Promote the implementation of 5 pilot projects to demonstrate a free-market approach to decreasing the levels of air pollution in Krakow by providing equipment and services and conducting engineering analysis, pilot testing, and incentive analysis and carry out selected analysis efforts based on the results of the previously conducted scoping analysis and the engineering and incentive analyses. In process of renewal							
8/21/1995	8/21/2000	In Force	Primary DOE	True		Environmental Restoration and Waste Management	Environmental Restoration Hazardous Waste Mgmt
Title: <i>Agreement for Technical Exchange and Cooperating between the Department of Energy of the United States of America and the Institute for Ecology of Industrial Areas of the Republic of Poland in the Area of Environmental Restoration and Hazardous Waste Management</i>							
Comment: Study topics associated with the safe management of hazardous wastes, e.g., risks associated with human exposure to environmental contamination from chemical and heavy metals in soils; demonstration of technologies or methodologies for soil cleaning; and other areas determined by both parties.							
10/8/1974	10/8/1984	Expired	Primary DOE	False		Fossil Energy	Coal R&D
Title: <i>Agreement between the Department of the Interior of the United States of America and the Ministry of Mining and power of the Polish People's Republic for Cooperation in Coal Research</i>							
Comment:							
Country: Romania							
1/1/1969		Expired	Primary DOE	False		Nuclear Energy	Nuclear Energy

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Memorandum on Cooperation in the Peaceful Uses of Atomic Energy between the United States Atomic Energy Commission and the Committee for Nuclear Energy of the Socialist Republic of Romania for 1969-1970</i> Comment:							
9/21/1971		Expired	Primary DOE	False		Nuclear Energy	Nuclear Energy
Title: <i>Memorandum on cooperation in the peaceful uses of atomic energy between the United States Atomic Energy Commission and the State Committee for Nuclear Energy of the Socialist Republic of Romania for 1971-1972</i> Comment:							
3/29/1999	3/26/2004	In Force	Primary DOE	False		Arms Control and Nonproliferation	Sister Lab Arrangement
Title: <i>Arrangement for Information Exchange and Cooperation in Area of Peaceful Uses of Atomic Energy between United States Department of Energy (DOE) and the Ministry of Industry and Commerce (MIC) - Romania</i> Comment: Establishes the basis for a cooperative institutional relationship between the participants for the exchange of scientific and technological and other information regarding the peaceful uses of atomic energy.							
Country: Russian Federation							
6/1/1990	12/1/1998	Expired	Intergovernmental	True		Science and Technology	S&T Cooperation Peaceful Uses of Atomic Energy
Title: <i>Agreement between the United States of America and the Union of Soviet Socialist Republics on Scientific and Technical Cooperation in the Field of Peaceful Uses of Atomic Energy</i> Comment: Agreement presently active, but third limited extension expires 12/1/1998.							
2/18/1993		In Force	Intergovernmental	True		Nuclear Energy	Disposition HEU Extracted From Nuclear Weapons
Title: <i>Agreement between the Government of the United States of America and the Government of the Russian Federation Concerning the Disposition of Highly Enriched Uranium Extracted from Nuclear Weapons</i> Comment: Conversion of HEU extracted from nuclear weapons resulting from the reduction of nuclear weapons; the establishment of appropriate measures to fulfill the nonproliferation, physical protection, nuclear material accounting and control, and environmental requirements with respect to HEU and LEU.							
3/18/1992		In Force	Statement of Intent	False		Information and/or Personnel Exchange	Electric Power Technologies
Title: <i>U.S.-Russia Task Force on Cooperation in Electric Power Technologies Joint Statement of Intent</i> Comment: Exchange information on developments in the electric power industries and encourage more extensive contacts among experts in this field in both countries.							
9/2/1993	10/31/1993	Completed	Statement of Intent	False		Energy Efficiency and Renewable Energy	Energy Efficiency and Renewable Energy
Title: <i>Statement of Intent on Energy Efficiency and Renewable Energy</i> Comment: Description not available in History							
6/16/1995		In Force	Primary DOE	True		Arms Control and Nonproliferation	Nonproliferation of Weapons/Weapons Expertise
Title: <i>Memorandum of Agreement between the Department of Energy of the United States of America and the International Science and Technology Center in the Russian Federation for Cooperation in Approved Projects to Facilitate the Nonproliferation of Weapons and Weapons Expertise</i> Comment: Facilitate cooperation under the ISTC agreement including the efforts to reduce or eliminate weapons of mass destruction in a safe and secure manner.							
9/16/1996	9/16/2001	In Force	Primary DOE	True	Intergovernmental	Nuclear Energy	Nuclear Reactor Safety
Title: <i>Memorandum of Cooperation between the United States of America and the Russian Federation in the Field of Civilian Nuclear Reactor Safety</i> Comment: replaces MOU in Civilian Nuclear Reactor Safety signed 26 April, 1988							
6/21/1973	12/31/1990	Expired	Primary DOE	False		Nuclear Energy	Atomic Energy: Science & Technology Cooperation
Title: <i>Agreement between the United States of America and the Union of Soviet Socialist Republics on Scientific and Technical Cooperation in the Field of Peaceful Uses of Atomic Energy</i> Comment: Description not available in History							
9/16/1996	9/16/2001	In Force	Primary DOE	True	Intergovernmental	Fusion Energy	Magnetic Confinement Fusion
Title: <i>Memorandum of Cooperation between the Department of Energy of the United States of America and the Ministry of the Russian Federation on Atomic Energy in the Field of Magnetic Confinement Fusion</i> Comment: Focus on Fusion science research and development							
2/17/1997	2/17/2002	In Force	Primary DOE	True	Intergovernmental	High Energy and Nuclear Physics	Fundamental Properties of Matter

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Memorandum of Cooperation in the Field of Research on Fundamental Properties of Matter between the Department of Energy of the United States of America and the Ministry of Atomic Energy and the State Committee for Science & Technologies of the Russian Federation</i>							
Comment: activities coordinated by the Joint Coordinating Committee for Research in the Fundamental Properties of Matter (FCC-FPM)							
9/16/1996	9/16/2001	In Force	Primary DOE	True		Fuel Cell Technology	RAFCO
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of the Russian Federation on Atomic Energy Regarding a Russian-American Fuel Cell Consortium</i>							
Comment: Joint R&D work in fuel cell technology development							
9/16/1996	9/16/2001	In Force	Primary DOE	True	Intergovernmental	Environmental Restoration and Waste Management	Environmental Restoration and Waste Management
Title: <i>Memorandum of Cooperation between the Department of Energy of United States of America and the Ministry of the Russian Federation on Atomic Energy in the Fields of Environmental Restoration and Waste Management</i>							
Comment:							
6/17/1992	6/17/1997	Expired	Intergovernmental	True		Energy Research and Development	Fuels and Energy
Title: <i>Agreement between the Government of the United States of America and the Government of the Russian Federation on Scientific and Technical Cooperation in the Field of Fuels and Energy</i>							
Comment: Provide a framework for development of cooperation by the Parties in the areas of: energy data exchange; energy and ecology; fossil energy sources; electric power; energy conservation and end-use efficiency; and renewable energy sources.							
1/6/1993		Terminated	Primary DOE	False		High Energy Physics	Superconducting Super Collider
Title: <i>Agreement between the United States Department of Energy and the Russian Federation Ministry of Atomic Energy for a Program of Collaboration on the Superconducting Super Collider</i>							
Comment: Cooperate in activities related to the design, development, construction, operation and utilization of the SSC accelerator complex and related detectors through exchanges of information, scientists and engineers; joint investigations and design of engineering systems; joint workshops/technical reviews/projects.							
10/1/1993	10/1/1998	Expired	Primary DOE	True	Intergovernmental	Energy Efficiency and Renewable Energy	Energy Efficiency and Renewable Energy
Title: <i>Memorandum of Cooperation in Energy Efficiency and Renewable Energy between the United States Department of Energy and the Russian Federation Ministry of Fuels and Energy</i>							
Comment: Facilitate and establish cooperative activities which will be undertaken pursuant to the agreement in the area of energy efficiency and renewable energy to advance the common interests of the parties and their industries in the efficient, environmentally acceptable use of conventional and renewable energy resources and technologies.							
1/14/1994	1/14/2004	In Force	Intergovernmental	True		Environmental Safety Health	Radioactive Contamination Health & Environment
Title: <i>Agreement between the Government of the United States of America and the Government of the Russian Federation on Cooperation in Research on Radiation Effects for the Purpose of Minimizing the Consequences of Radioactive Contamination on Health and the Environment</i>							
Comment: Establish a framework for cooperation in research on radiation effects for the purpose of minimization of the consequences of radioactive contamination on health and the environment. DOE is the Executive Agent and is responsible for coordination of activities to implement the agreement.							
6/15/1995		In Force	Secondary DOE	True	Primary DOE	Fusion Energy	Annex 1 Weapons Expertise for the Globus-M Project
Title: <i>Annex I to the Memorandum of Agreement between the Department of Energy of the United States of America and the International Science and Technology Center in the Russian Federation Concerning Cooperation in Approved Projects to Facilitate the Nonproliferation Weapons and Weapons Expertise for the Globus-M Project</i>							
Comment: Cooperate to support the A.F. IOFFE Physics-Technical Institute in the completion of the GLOBUS-M project by participating in the modification (or reconstruction) of the experimental hall of the Institute in order to accommodate the new GLOBUS-M spherical tokamak device and the near-by supporting equipment, the buildings that house all the other device supporting systems, and the connections/conduits between the experimental hall and those buildings needed by the GLOBUS-M project.							
9/18/1990	9/18/1995	Expired	Primary DOE	True	Intergovernmental	Environmental Restoration and Waste Management	Environmental Restoration and Waste Management
Title: <i>Memorandum of cooperation in the fields of environmental restoration and waste management between the United States of America and the Union of Soviet Socialist Republics</i>							
Comment: US/USSR TECHNICAL EXCHANGE WORKSHOPS IN THE AREAS OF VITRIFICATION & MODELING.JCCM MTG. ATTENDANCE							
7/5/1991	7/5/1996	Expired	Primary DOE	False	Intergovernmental	High Energy Physics	Fundamental Properties of Matter
Title: <i>Memorandum of cooperation in the field of research on fundamental properties of matter between the U.S. Department of Energy and the Ministry of Atomic Power and Industry of the Former Soviet Union</i>							
Comment: ONGOING COLLABORATION IN HIGH ENERGY PHYSICS RESERCH AND ANNUAL MEETING							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
7/5/1991	7/5/1996	Expired	Primary DOE	True	Intergovernmental	Fusion Energy	Magnetic Confinement Fusion
Title: <i>Memorandum of cooperation in the field of magnetic confinement fusion between U.S. Department of Energy and the former Soviet Union Ministry of Atomic Power and Industry</i>							
Comment: COOPERATION IN PHYSICS AND TECHNOLOGY RESEARCH							
3/24/1999	3/24/2004	In Force	Primary DOE	True		Science and Technology	MOU w/ Russian Academy of Sciences
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Russian Academy of Sciences on Cooperation in Science and Technology</i>							
Comment:							
5/31/2000	9/30/2002	In Force	Tertiary DOE	True	Secondary DOE	Environmental Restoration and Waste Management	Appendix D- Annex A - Chara. Of Contaminated Territories
Title: <i>Annex A of Appendix D Implementing Arrangement #2 of the U.S. Department of Energy/Russian Academy of Sciences Memorandum of Understanding Characterization of Contaminated Territories, Monitoring Network Optimization, and Cost Minimization</i>							
Comment:							
5/15/2000	3/24/2004	In Force	Secondary DOE	True	Primary DOE	Environmental Restoration and Waste Management	DOE/RAS Implementing Arrangement 1
Title: <i>Implementing Arrangement #1 Under the Memorandum of Understanding between the United States Department of Energy and the Russian Academy of Sciences on Cooperation in Science and Technology - Geologic Analogues, Migration and Accumulation of Radionuclides in Geologic Media</i>							
Comment:							
5/15/2000	3/24/2004	In Force	Secondary DOE	True	Primary DOE	Environmental Restoration and Waste Management	DOE/RAS Implementing Arrangement 2
Title: <i>Implementing Arrangement #2 Under the Memorandum of Understanding between the United States Department of Energy and the Russian Academy of Sciences on Cooperation in Science and Technology - Risk Assessment and Advanced Modeling Regarding Geologic Disposal</i>							
Comment:							
6/22/1999	6/22/2001	In Force	Secondary DOE	True	Primary DOE	Fusion Energy	ISTC Annex III -Advanced Diagnostics equipment for Spherical Tokamak Globus-M
Title: <i>Annex III to the Memorandum of Agreement between the Department of Energy of the United States of America and the International Science and Technology Center in the Russian Federation Concerning Cooperation in Approved Projects to Facilitate the Nonproliferation of Weapons and Weapons Expertise for Advanced Diagnostics Equipment for Spherical Tokamak Globus-M (ISTC Project No. 1126)</i>							
Comment:							
7/24/1998	7/24/2003	In Force	Intergovernmental	True		Arms Control and Nonproliferation	Plutonium Management
Title: <i>Agreement between the Government of the United States of America and the Government of the Russian Federation on Scientific and Technical Cooperation in the Management of Plutonium that has been withdrawn from Nuclear Military Programs</i>							
Comment: DOE is the Executive Agent for the US. The agreement establishes the U.S.-Russian Joint Steering Committee on Plutonium Management							
4/23/2002		In Force	Statement of Intent	False		Science and Technology	Joint Statement of Intent between DOE and Dubna
Title: <i>Joint Statement of Intent between the Department of Energy of the United States of America and the Joint Institute for Nuclear Research at Dubna</i>							
Comment:							
6/26/2000	6/30/2005	In Force	Secondary DOE	True	Primary DOE	Arms Control and Nonproliferation	Extension bet. DOE federal Nuclear and Radiation Safety Authority of Russia
Title: <i>Protocol Extending the Agreement between the Department of Energy of the United States of America and the Federal Nuclear and Radiation Safety Authority of Russia to Cooperate on National Protection, Control and Accounting of Nuclear Materials</i>							
Comment:							
3/1/1999		In Force	Primary DOE	True		Nuclear Energy	Report on Nuclear Energy
Title: <i>Report on Nuclear Energy Use Issues of the Energy and Energy Policy Joint U.S.-Russian Commission on Economic and Technological Cooperation (Washington, March 1999)</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment:							
4/25/2001	4/25/2004	In Force	Secondary DOE	True	Primary DOE	Science and Technology	Appendix K w/ the Russian Academy of Sciences
Title: <i>Appendix K Under Implementing Arrangement #1 of the Memorandum of Understanding Between the U.S. Department of Energy and Russian Academy of Sciences on Cooperation in Science and Technology</i>							
Comment:							
9/22/1998	9/22/2003	In Force	Intergovernmental	True		Arms Control and Nonproliferation	Nuclear Cities Initiative
Title: <i>Agreement between the Government of the United States of America and the Government of the Russian Federation on the Nuclear Cities Initiative</i>							
Comment: DOE is the US Executive Agent for the carrying out provisions of the agreement. Ministry of the Russian Federation for Atomic Energy is the Executive agent for Russia							
6/2/2000	9/30/2003	In Force	Tertiary DOE	True	Secondary DOE	Civilian Radioactive Waste Management	Appendix C - Contaminant Transport Processes in Unsaturated Rocks
Title: <i>Appendix C Implementing Arrangement #2 of the U.S. Department of Energy/Russian Academy of Sciences Memorandum of Understanding Interdisciplinary Fundamental Research to Further Develop the Methods of Describing and Modeling Contaminant Transport Process in Unsaturated Rocks</i>							
Comment:							
5/16/2000	9/20/2002	In Force	Tertiary DOE	True	Secondary DOE	Environmental Restoration and Waste Management	Appendix D - Uranium Mass Transport Phenomena
Title: <i>Appendix D Implementing Arrangement #1 of the U.S. Department of Energy/Russian Academy of Sciences Memorandum of Understanding Uranium Mass Transport Phenomena in Fractured Welded Tuffs</i>							
Comment:							
3/16/1994		In Force	Primary DOE	False		Nuclear Energy	Replacement of Russian Pu Production Reactors
Title: <i>Protocol of Meeting between the United States and the Russian Federation on the Replacement of Russian Plutonium Production Reactors</i>							
Comment: Plan for replacement of plutonium production reactors with alternate energy sources.							
9/16/1996	9/16/2001	In Force	Secondary DOE	True	Primary DOE	Nuclear Energy	Annex 1
Title: <i>Annex 1 - List of Organizations that could participate</i>							
Comment:							
5/31/2000	9/30/2002	In Force	Tertiary DOE	True	Secondary DOE	Environmental Restoration and Waste Management	Appendix D - Annex B - Uncertainty Assessment
Title: <i>Annex B of Appendix D Implementing Arrangement #2 under the DOE-RAS Memorandum of Understanding Uncertainty Assessment Through Incorporation of Mathematical Geology in Development of Inverse Flow and Transport Models</i>							
Comment:							
5/18/2000	9/30/2003	In Force	Tertiary DOE	True	Secondary DOE	Civilian Radioactive Waste Management	Appendix G - Interaction of Actinides and Fission Products
Title: <i>Appendix G Implementing Arrangement #1 of the U.S. Department of Energy/Russian Academy of Science Memorandum of Understanding The Interaction of Actinides and Fission Products with Environmental Matrices</i>							
Comment:							
5/18/2000	9/30/2003	In Force	Tertiary DOE	True	Secondary DOE	Civilian Radioactive Waste Management	Appendix H - Actinide Speciation
Title: <i>Appendix H Implementing Arrangement #1 of the U.S. Department of Energy/Russian Academy of sciences Memorandum of Understanding Actinide Speciation in the Environment to Support Safety Assessment of Geologic Repositories and for the Remediation of Contaminated Sites</i>							
Comment:							
6/30/2000	6/30/2005	In Force	Secondary DOE	True	Primary DOE	Civilian Radioactive Waste Management	Protocol extending the agreement between DOE and Russia
Title: <i>Protocol Extending the Agreement between the Department of Energy of the United States of America and the Federal Nuclear, and Radiation Safety Authority of Russia for Cooperation on Enhancing the Safety of Russian Nuclear Fuel Cycle Facilities and Research Reactors</i>							
Comment: Extending the agreement mention above for five years until June 30, 2005.							
7/16/2001	7/16/2006	In Force	Secondary DOE	True		Civilian Radioactive Waste Management	Annex VI

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Title: *Annex VI to the Memorandum of Agreement between the Department of the United States of America and the International Science and Technology Center in the Russian Federation Concerning Implementation of Projects of the Office of Civilian Radioactive Waste Management*

Comment:

9/24/2003		In Force	Secondary DOE	True		Science and Technology	Implementing Arrangement #3 - Depleted Uranium
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Title: *Implementing Arrangement #3 - Depleted Uranium under Memorandum of Understanding between the United States Department of Energy and the Russian Academy of Sciences on Cooperation in Science and Technology*

Comment:

12/2/2003	12/2/2008	In Force	Extension	True		Science and Technology	Extension of the MOU bet. DOE and RAS signed March 24, 1999
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Title: *Agreement between the Department of Energy of the United States of America and the Russian Academy of Sciences to Extend the "Memorandum of Understanding between the Department of Energy of the United States of America and the Russian Academy of Sciences on Cooperation in Science and Technology" signed March 24, 1999*

Comment:

3/17/2004	3/17/2007	In Force	Primary DOE	True		Science and Technology	Appendix L
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Title: *Appendix L Under Implementing Arrangement #1 of the Memorandum of Understanding Between the U.S. Department of Energy and Russian Academy of Sciences on Cooperation in Science and Technology*

Comment:

5/8/2002		In Force	Primary DOE	True		Purchases of Pu-238 for Peaceful Purposes	Purchases of Pu-238 for Peaceful Purposes
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Title: *Joint Announcement by the United States Department of Energy and the Russian Federation Ministry for Atomic Energy Concerning Continued Purchases of Pu-238 for Peaceful Purposes*

Comment:

10/1/2000	10/1/2002	In Force	Secondary DOE	True	Primary DOE	Uranium Mass Transport Phenomena in Fractured Welded Tuffs	Appendix D of Implementing Arrangement #1w/ Russian Academy of Sciences MOU
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Title: *Appendix D Implementing Arrangement #1 of The U.S. Department of Energy/Russian Academy of Sciences Memorandum of Understanding Uranium Mass Transport Phenomena in Fractured Welded Tuffs*

Comment:

6/13/1995	6/13/2000	Expired	Primary DOE	True		Arms Control and Nonproliferation	Agreement between DOE and the Federal Russian Federation
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Title: *Agreement between the U.S. Department of Energy and the Federal Nuclear and Radiation Safety Authority of the Russian Federation for Cooperation on Enhancing the Safety of Russian Nuclear Fuel Cycle Facilities and Research Reactors*

Comment:

3/12/2003		In Force	Primary DOE	True			
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Title: *Agreement between the Department of Energy of the United States of America and the Ministry of the Russian Federation and the Ministry of the Russian Federation for Atomic Energy Concerning the Cessation of Plutonium Production at the Operating ADE-4 AND ADE-5 Reactors in Seversk (TOMSK Region) and ADE-2 Reactor in Zheleznogorsk (Krasnoyarsk Region)*

Comment:

Country: Saudi Arabia

10/30/1977	12/31/1987	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Energy
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All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Title: *Project Agreement between the Saudi Arabian National Center for Science and Technology and the Saudi Arabian Ministry of Finance and National Economy, Jointly, and the United States Department of Treasury, Jointly for Cooperation in the Field of Solar Energy*

Comment:

7/21/1993	7/21/1997	Completed	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 2: Assessment of Solar Radiation Resources
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Title: *Annex II to the Agreement between the Department of Energy and the Department of Treasury of the United States of America and the Kind Abdulaziz City for Science and Technology and the Ministry of Finance and National Economy of the Kingdom of Saudi Arabia*

Comment: Improve the assessment of solar radiation resources in Saudi Arabia by upgrading surface measurements and by developing correlation between surface and satellite data.

2/9/1994	2/9/1996	Completed	Secondary DOE	False	Primary DOE	Energy Efficiency and Renewable Energy	Annex 3 - Assessment of Geothermal Energy Resources
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Title: *Annex III to the Agreement between the Department of Energy and the Department of the Treasury of the United States of America and the King Abdulaziz City for Science and Technology and the Ministry of Finance and National Economy of the Kingdom of Saudi Arabia*

Comment: Increase knowledge and determine potential of geothermal resources in Saudi Arabia involving a review of existing studies and reports, development of an annotated list of potential sites for additional studies, field studies of selected geothermal locations and recommendations for follow-on activities.

2/1/1987	2/13/1995	Expired	Primary DOE	False		Energy Research and Development	Renewable Energy R&D
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Title: *Saudi Arabian - United States Joint Commission on Economic Cooperation Project Agreement between the King Abdulaziz City for Science and Technology and the Ministry of Finance and National Economy Kingdom of Saudi Arabia and the Department of Energy and the Department of the Treasury United States of America for Cooperation in the Field of Renewable Energy Research and Development*

Comment: Joint R&D projects in renewable energy fields if mutual interest.

Country: Senegal

4/2/1998		In Force	Statement of Intent	False		Energy Research and Development	SOI - Energy R&D
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Title: *Memorandum of Understanding between the Republic of Senegal and the United States of America for Cooperation on Energy Policy, Science and Technology, and Research and Development*

Comment:

3/19/1999	3/19/2004	In Force	Primary DOE	True		Energy Research and Development	Energy Policy, S and T, and R and D
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Title: *Agreement between the Department of Energy and the Ministry of Energy, Mines and Industry of the Republic of Senegal on Cooperation in Energy Policy, Science and Technology, Research and Development*

Comment: The objective of this Agreement is to facilitate and establish cooperative activities by the Parties.

Country: South Africa

12/4/1997	12/4/2022	In Force	Intergovernmental	True		Nuclear Energy	Peaceful Uses of Nuclear Energy
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Title: *Agreement for Cooperation between the United States of America and the Republic of South Africa Concerning Peaceful Uses of Nuclear Energy*

Comment: Cooperate in the development, use and control of peaceful uses of nuclear energy which must be undertaken with a view to protecting the international environment from radioactive, chemical and thermal contamination. Agreement was signed on 8/25/95 ratified by exchange of diplomatic notes on 12/4/97.

8/25/1995		In Force	Statement of Intent	False		Information and/or Personnel Exchange	Energy Information Exchange
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Title: *Joint Statement of Intent between the Department of Energy of the United States of American and the Department of Mineral and Energy Affairs of the Republic of South Africa on an Energy Information Exchange*

Comment:

8/25/1995		In Force	Statement of Intent	False		Energy Research and Development	Energy Policy, S&T and Development
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Title: *Joint Statement of Intent between the Department of Energy of the United States of American and the Department of Mineral and Energy Affairs of the Republic of South Africa on Energy Policy, Science and Technology, and Development*

Comment: Facilitate joint activities related to energy policy, S&T, development and commercialization in an environmentally and economically sound manner.

8/25/1995		In Force	Statement of Intent	False		Energy Efficiency and Renewable Energy	Renewable Energy (Guguletu Township)
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Title: *Joint Statement of Intent for Integrated Industrial/Educational Development in Guguletu Township between the United States Department of Energy, United States Department of Energy National Laboratories, and the Guguletu RDP Forum*

Comment: Establishment of a light industrial part in Guguletu Township.

8/25/1995		In Force	Statement of Intent	False		Energy Efficiency and Renewable Energy	Renewable Energy (The Csir, South Africa)
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All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Statement of Intent on Renewable Energy Technologies between the National Renewable Energy Laboratory, U.S.A. and Sandia national Laboratories, U.S.A. and the CSIR (Council for Scientific and Industrial Research), Republic of South Africa</i> Comment: NREL and Sandia, by being signatories of this Statement, have agreed to exchange experience and views on opportunities for the appropriate utilization of renewable energy technologies with The CSIR, Republic of South Africa. Witnessed by Secretary O'Leary.							
12/5/1995		In Force	Statement of Intent	False		Fossil Energy	Mitigation of Greenhouse Gases
Title: <i>Statement of Intent concerning Cooperation in Sustainable Energy Development and the Mitigation of Greenhouse gases between the Republic of South Africa and the United States of America</i> Comment: Investigate pilot studies the feasibility of the development of projects which could achieve additional mitigation of climate change by addressing anthropogenic emissions by sources and removal by sinks in an environmentally sound and socially and economically equitable fashion through deployment of greenhouse gas mitigation technologies; education/training programs; diversification of energy sources; conservation, restoration and enhancement of natural carbon sinks, etc.							
12/5/1995		In Force	Statement of Intent	False		Energy Research and Development	South Africa/Provincial Gov'ts Cooperation Agreement - Statement of Intent
Title: <i>Cooperative Agreement between Provincial Governments of the Republic of South Africa on Regional Cooperation in Energy</i> Comment: Intention to cooperate in a manner which will facilitate joint activities related to energy development in an environmentally and economically sound way with the following provincial governments of South Africa: Province of the Free State; Northern Cape Province; Eastern Cape Province							
8/25/1995		In Force	Primary DOE	False		Energy Research and Development	Sustainable Energy Development Committee
Title: <i>Terms of Reference on the Sustainable Energy Development Committee of the U.S. - South Africa Binational Commission</i> Comment:							
8/25/1995		In Force	Primary DOE	False		Energy Efficiency and Renewable Energy	Renewable and Energy Efficiency Technologies
Title: <i>Memorandum of Understanding</i> Comment: Promotion of renewable energy and energy efficient technologies as a cost-effective means of increasing access to energy of the majority of South Africa disadvantaged population (w/USAID as a partner).							
8/25/1995		In Force	Primary DOE	False		Energy Efficiency and Renewable Energy	Electrification of Rural Clinics (Cape Town)
Title: <i>Memorandum of Understanding between Sandia National Laboratories of Albuquerque New Mexico, USA and the Independent Development Trust Cape Town, Republic of South Africa</i> Comment: Sandia National Lab, as signatory of this MOU, has agreed to co-fund the Independent Development Trust model clinic electrification program and to provide other technical assistance as agreed by mutual consent.							
12/5/1995	12/5/2000	In Force	Primary DOE	True		Energy Research and Development	Energy Policy, S&T and Development
Title: <i>Implementing Agreement between the United States Department of Energy and the Department of Mineral and Energy Affairs of South Africa on Collaboration on Energy, Policy, Science, Technology and Development</i> Comment: Facilitate and establish cooperative activities in energy policy, science, technology, development and commercialization activities in such areas as: fossil energy, including clean coal; energy planning, efficiency, renewable energy; environmental management; environment enhancing energy technologies; and private power project development							
8/25/1995		In Force	Primary DOE	False		Energy Research and Development	Sustainable Development Resource Center
Title: <i>Memorandum of Understanding between the World Wildlife Fund-South Africa, EarthKind International, U.S. Department of Energy and U.S. Agency for International Development on Creating the Sustainable Development Resource Center</i> Comment: Cooperate on the creation of the Sustainable Development Resource enter to advance policies and programs on the use of renewable energy and energy efficiency technologies and participation by nongovernmental organization in the decision making process. Other signatories are EarthKind Intl (Jan Hartke) and USAID (Larry Byrne)							
Country: Spain							
12/12/1985		In Force	Primary DOE	True		Science and Technology	Science & Technology
Title: <i>Agreement between the United States Department of Energy and the United States-Spain Joint Committee for Scientific and Technological Cooperation</i> Comment: Establish responsibilities, guidelines and procedures for evaluating, funding and coordinating research proposals, projects and related activities in the field of energy selected and funded by the US-Spain Joint Committee for S&T Cooperation.							
9/15/1997	9/15/2007	In Force	Primary DOE	True		Environmental Safety Health	Research on Radiological Evaluations
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Industry and Energy of the Kingdom of Spain on Cooperation in Research on Radiological Evaluations</i> Comment:							
12/16/1985	12/31/1988	Completed	Primary DOE	False		Fusion Energy	Magnetic Fusion

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Title: *Annex II to the Agreement between the Department of Energy of the United States and the U.S.-Spain Joint Committee for Scientific and Technological Cooperation in Cooperation in the Field of Toriadal Confinement Device TJ-II*

Comment:

6/6/1986	6/30/1991	Expired	Primary DOE	False		Energy Research and Development	Energy R&D
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Title: *Memorandum of Understanding between the United States Department of Energy and the Spanish Junta De Energia Nuclear for Cooperation in Energy Research and Development*

Comment: Description not available in History

12/16/1992	12/16/1997	Expired	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
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Title: *Agreement between the United States Department of Energy and the Spanish Empresa Nacional de Residuos Radiactivos, S.A. in the Field of Radioactive Waste Management*

Comment: Exchange of technology for management of radioactive wastes and other mutually agreed topics associated with the management of radioactive waste.

5/10/1979	12/31/1982	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Energy - Ministry of Industry and Energy
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Title: *Specific Memorandum of Agreement between the United States Department of Energy and the Spanish Ministry of Industry and Energy in the Field of Solar Energy Research and Applications*

Comment: Description not available in History

10/22/1979	12/31/1982	Expired	Primary DOE	False		Energy Efficiency and Renewable Energy	Solar Energy - Institute for Aerospace Technology
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Title: *Specific Memorandum of Agreement between the United States Department of Energy and the Spanish National Institute for Aerospace Technology in the Field of Solar Energy Research and Applications*

Comment:

9/15/1997	9/15/2007	In Force	Secondary DOE	True	Primary DOE	Environmental Safety Health	Annex 1
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Title: *Project Annex 1 - cooperation on research in radiological evaluations*

Comment: Related to radioactive waste management.

6/6/1986	6/30/1991	Expired	Primary DOE	False		Fossil Energy	Coal Liquefaction/ Geothermal Energy
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Title: *Memorandum of Understanding between the United States Department of Energy and the Spanish Instituto Geologico Y Minero for Cooperation in Energy Research and Development*

Comment: Description not available in History

11/18/1986	12/31/1989	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Mesons and Quarks in Nuclei
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Title: *Annex XI to the Agreement between the Department of Energy of the United States and the U.S.-Spain Joint Committee for Scientific and Technological cooperation in Mesons and Quarks in Nuclei*

Comment: Description not available in History

12/16/1985	12/31/1988	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Light Water Reactor Safety
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Title: *Annex I to the Agreement between the Department of Energy of the United States and the U.S.-Spain Joint Committee for Scientific and Technological Cooperation in Exchange of Information and Personnel in the Area of Probabilities Risk Assessments for Light Water Reactors*

Comment: Description not available in History

10/27/1986	12/31/1989	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Annex IV - Electron-Positron Collision Interactions
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Title: *Annex IV to the Agreement between the Department of Energy of the United States and the U.S.-Spain Joint Committee for Scientific and Technological Cooperation in the Field of Electron-Position Collision Interactions*

Comment: Description not available in History

7/15/2000	7/15/2006	In Force	Primary DOE	True		Energy Research and Development	MOU for Energy Cooperation
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Title: *Memorandum of Understanding Between The Ministry of Science and Technology of the Kingdom of Spain and The Department of Energy of the United States of America Concerning Cooperation in Energy*

Comment:

Country: Sweden

9/9/1980	9/9/1995	Expired	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
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Title: *Agreement between the United States Department of Energy and the Swedish Nuclear Fuel and Waste Management Company Concerning a Cooperative Program in the Field of Radioactive Waste Management*

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Cooperation is directed towards a study of mutually agreed topics associated with the management of radioactive waste and related activities of the nuclear fuel cycle.							
2/11/1988		In Force	Primary DOE	True		Classified	Subject and Umbrella contents are classified
Title: Subject and Umbrella contents are classified							
Comment: Description not available in History							
7/1/1977	7/1/1980	Expired	Primary DOE	True		Environmental Restoration and Waste Management	Radioactive Waste Storage
Title: Agreement between ERDA and the Swedish Nuclear Fuel and Waste Management Company Concerning a Cooperative Program on Radioactive Waste Storage in Deep Geological Formations							
Comment: Field testing relative to measuring fluid movement through fractures in granite rock in order to assess suitability of granite for terminal storage							
12/16/1992	12/16/1997	Expired	Secondary DOE	True	Primary DOE	Civilian Radioactive Waste Management	Site Characterization & Repository Performance
Title: U.S. Department of Energy - Sweden project agreement in the areas of site characterization and repository performance							
Comment: Collaboration on a technical project concerning (1) construction/testing integration; (2) site characterization; (3) geohydrology; and (4) geochemistry on the basis of data and other information collected primarily from the SKB Aspo Hard Rock Laboratory program.							
10/23/1995	10/23/2000	In Force	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: Agreement between the United States Department of Energy and the Swedish Nuclear Fuel and Waste Management Company Concerning a Cooperative Program in the Field of Radioactive waste Management							
Comment:							
5/24/2004	5/24/2009	In Force	Primary DOE	True		Civilian Radioactive Waste Management	MOU bet. DOE and the Swedish - Radioactive Waste Material
Title: Memorandum of Understanding between the Department of Energy of the United States of America and the Swedish Nuclear Fuel and Waste Management Company Concerning a Cooperative Program in the Field of Radioactive Waste Management							
Comment:							
Country: Switzerland							
11/15/1982	11/30/1991	Expired	Primary DOE	True		Nuclear Energy	Carbide Fuel Development
Title: Agreement between the United States Department of Energy and the Swiss Federal Institute of Reactor Research in the area of Carbide Fuel Development							
Comment: Postirradiation examination phase and documentation of results and evaluation to be completed.							
6/13/1989	6/13/1992	Expired	Primary DOE	False		Nuclear Energy	Nuclear Plant Life Extension Research
Title: Agreement between the United States Department of Energy and the Swiss Confederation Represented by the Paul Scherrer Institute, 5232 Villigen PSI, Switzerland on Cooperation in Nuclear Plant Life Extension Research							
Comment: Description not available in History							
12/23/1997	12/23/2002	In Force	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: Agreement between the Department of Energy of the United States of America and the National Cooperative for the Disposal of Radioactive Waste in Switzerland in the Field of Radioactive Waste Management							
Comment: Auto extension for 5 yr. Periods.							
4/10/1981	8/2/1982	Expired	Primary DOE	False		Nuclear Energy	Carbide Fuel Development
Title: Agreement between the United States Department of energy and the Swiss Federal Institute for Reactor Research in the Area of Carbide Fuel Development							
Comment:							
2/14/1986	6/30/1986	Expired	Secondary DOE	True	Primary DOE	Civilian Radioactive Waste Management	Fracture Hydrology
Title: Project Agreement between the United States Department of Energy (DOE) and the National Cooperative for the Storage of Radioactive Waste in Switzerland (NAGRA) in the field of Fracture Hydrology							
Comment: Description not available in History							
6/8/1987	6/8/1990	Completed	Secondary DOE	False	Primary DOE	Civilian Radioactive Waste Management	Flow and Transport in Fractured Media
Title: Project Agreement II between the Department of Energy and the National Cooperative for the Storage of Radioactive Waste in Switzerland (NAGRA) in the Field of Flow and Transport in Fractured Media							
Comment:							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
4/19/1985	9/23/1996	Expired	Primary DOE	True		Civilian Radioactive Waste Management	Radioactive Waste Management
Title: <i>Agreement between the United States Department of Energy and the National Cooperative for the Storage of Radioactive Waste in Switzerland in the Field of Radioactive Waste Management</i>							
Comment: Study of mutually agreed topics associated with the management of radioactive waste and related activities of the nuclear fuel cycle. VISITS AND ASSIGNMENTS: Yes DURATION: To Be Determined							
9/23/1991	9/23/1996	Expired	Secondary DOE	True	Primary DOE	Civilian Radioactive Waste Management	Site Char., Repository Performance, Validation
Title: <i>Project Agreement III between the United States Department of Energy and the National Cooperative for the Storage of Radioactive Waste in Switzerland (NAGRA) in the areas of Site Characterization, Repository Performance, Validation, and Sorption</i>							
Comment: Provide a framework for joint research on: (1) optimization of site characterization methods; (2) improved understanding of specific key processes which determine repository performance; (3) validation of specific models on data collection; and (4) derivation of bulk sorption parameters of radionuclides on natural rocks and validation of transport models.							
Country: Taiwan							
2/3/2004		In Force	Primary DOE	True			Agreement bet. DOE and AIT
Title: <i>Agreement between the Department of Energy of the United States of America and the American Institute in Taiwan for Technical Cooperation in Clean Coal and Advanced Power Systems Technologies</i>							
Comment:							
10/31/2003		In Force	Intergovernmental	True			Agreement bet. TECRO and AIT
Title: <i>Agreement between the Taipei Economic and Cultural Representative Office in the United States and the American Institute in Taiwan for Technical Cooperation in Clean Coal and Advanced Power Systems Technologies</i>							
Comment:							
Country: Thailand							
3/20/1997		In Force	Primary DOE	False		Arms Control and Nonproliferation	Lab-to-Lab arrangement
Title: <i>Arrangement for the Exchange of Technical Information and for Cooperation in the Field of Peaceful Uses of Nuclear Energy between the Office of Atomic Energy for Peace of Thailand and the United States Department of Energy</i>							
Comment: Open ended.							
3/6/2000		In Force	Secondary DOE	False	Primary DOE	Arms Control and Nonproliferation	Action Sheet 1 - Preliminary Safety Analysis Report
Title: <i>Action Sheet 1 between the Office of Atomic Energy for Peace of Thailand and the United States Department of Energy for Preliminary Safety Analysis Report Review</i>							
Comment:							
Country: Turkey							
3/20/2002	3/20/2007	In Force	Primary DOE	True		Science and Technology	Cooperation in Energy Technology
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Energy and Natural Resources of the Republic of Turkey for Cooperation in Energy Technology</i>							
Comment:							
3/20/2002	3/20/2002	In Force	Secondary DOE	True	Primary DOE	Science and Technology	Annex 2 - Cooperation in the Field of Coal and Power Systems
Title: <i>Annex 2 to the Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Energy and Natural Resources of the Republic of Turkey for Cooperation in the Field of Coal and Power Systems</i>							
Comment:							
Country: USSR							
6/28/1974		Expired	Intergovernmental	True		Energy Research and Development	Non-Nuclear Energy
Title: <i>Agreement Between the United States of America and the Union of Soviet Socialist Republics of Cooperation in the Field of Energy</i>							
Comment: Description not available in History							
9/28/1972		Expired	Primary DOE	False		Nuclear Energy	Nuclear Energy

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
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Title: *Memorandum on cooperation in the peaceful uses of atomic energy between the U.S. Atomic Energy Commission and the USSR State Committee for the Utilization of Atomic Energy pursuant to the Agreement between the United States of America and the Union of Soviet Socialist Republics on exchanges in the scientific, technical, educational, cultural, and other fields in 1972-1973*

Comment: Description not available in History

10/8/1974	Expired	Primary DOE	False	Nuclear Energy	Fast Breeder Reactors
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Title: *Protocol on Cooperation in the Field of Fast Neutron Breeder-Reactors between the U.S. Atomic Energy Commission and the USSR State Committee for Utilization of Atomic Energy*

Comment: under USA-USSR Peaceful Uses of Atomic Energy Agreement of June 21, 1973

Country: Ukraine

4/8/1994	In Force	Statement of Intent	False	Nuclear Energy	Shutdown Chernobyl Nuclear Power Plant
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Title: *Joint Statement About Paths to the Soonest Possible Shutdown of the Chernobyl Nuclear Power Plant*

Comment: Undertake near-term joint analysis of options for earliest possible closure of the Chernobyl power plant.

10/23/1993	10/23/1998	Expired	Intergovernmental	True	Nuclear Safety	Nuclear Safety
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Title: *Agreement between the Government of the United States of America and the Government of Ukraine Concerning Operational Safety Enhancements, Risk Reduction Measures and Nuclear Safety Regulations for Civilian Nuclear Facilities in Ukraine*

Comment:

4/26/1996	In Force	Intergovernmental	False	Radioactive Waste	Chornobyl Center
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Title: *Memorandum of Understanding on Participation In and Support of the Activities of the International Chornobyl Center on Nuclear Safety, Radioactive Waste and Radioecology*

Comment:

7/22/1998	7/22/2003	In Force	Intergovernmental	True	Radioactive Waste	Int'l Radioecology Lab
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Title: *Agreement between the Government of the United States of America and the Government of Ukraine Concerning the International Radioecology Laboratory of the International Chornobyl Center on Nuclear Safety, Radioactive Waste and Radioecology*

Comment: Department of Energy is the Executive Agent

5/6/1998	5/4/2028	In Force	Intergovernmental	True	Nuclear Energy	US-Ukraine PNC
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Title: *Agreement for Cooperation between the United States of America and Ukraine Concerning Peaceful Uses of Nuclear Energy*

Comment:

3/4/1994	3/4/1999	Completed	Intergovernmental	True	Science and Technology	US-Ukraine S&T Agreement
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Title: *Agreement between the Government of the United States of America and the Government of Ukraine on Science and Technology Cooperation*

Comment:

Country: United Kingdom

9/5/1996	In Force	Statement of Intent	False	Environmental Restoration and Waste Management	Environmental Restoration and Waste Management
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Title: *Statement of Intent between the United States Department of Energy and the United Kingdom Department of Trade and Industry*

Comment: Establish framework for cooperation in R&D of technologies for the treatment, packaging, disposal of aluminum-based spent nuclear fuel.

7/25/1995	In Force	Statement of Intent	False	Environmental Restoration and Waste Management	Nuclear Clean-Up
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Title: *Heads of Agreement for Cooperation Between the United States Department of Energy and the United Kingdom Department of Trade and Industry on their Perspective Program for Nuclear Clean-up*

Comment: Cooperate, through sharing of information, on similar issues associated with nuclear decommissioning and clean-up

3/1/1985	3/1/1993	Expired	Primary DOE	True	Environmental Restoration and Waste Management	Decommissioning Nuclear Facilities
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Title: *Reciprocal Agreement between the United States Department of Energy and the United Kingdom Atomic Energy Authority in the field of Decommissioning Nuclear Facilities*

Comment: Exchange of Decommissioning Technology and Experience

10/30/1986	10/31/1991	Expired	Primary DOE	True	Civilian Radioactive Waste Management	Radioactive Waste Management Technology
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All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Agreement between the U.S. Department of Energy and the United Kingdom Atomic Energy Authority in the field of Radioactive Waste Management Technology</i> Comment: Cooperate and exchange technology associated with the management of radioactive waste							
8/26/1988	8/26/1998	Completed	Primary DOE	True		Nuclear Energy	Gas Cooled Reactor Graphite Technology
Title: <i>Agreement on the Exchange of Information in the Field of Gas-Cooled Reactor Graphite Technology between the U.S. Department of Energy and the United Kingdom Atomic Energy Agency and the Central Electricity Generating Board of the United Kingdom</i> Comment: Establish a reciprocal, balanced information exchange and collaboration on gas-cooled reactor graphite technology in cooperative areas such as graphite creep data; graphite fracture models and data; graphite strength data; and graphite probabilistic risk assessment methodology.							
9/12/1958		Completed	Primary DOE	False		Energy Research and Development	Fusion Energy
Title: <i>Exchange of Letters to improve collaboration in the research field</i> Comment: Identified five areas of interest: 1) Basic research in general and controlled thermonuclear reactions; 2) Uranium oxide fuels; 3) Gas coolant compatibility; 4) Beryllium; and 5) Plutonium recycle research							
12/2/1969	12/1/1976	Expired	Primary DOE	False		Information and/or Personnel Exchange	Exchange Nuclear S&T Information
Title: <i>Memorandum of Understanding between the United States Atomic Energy Commission and the United Kingdom Atomic Energy Authority for Cooperation in the Exchange of Nuclear Science and Technology Information</i> Comment: Cooperate in the promoting effective dissemination of S&T information in the nuclear field							
8/28/1975		Expired	Primary DOE	False		Fossil Energy	Coal R&D
Title: <i>Exchange of Letters insuring ERDA's participation in the Agreement: Terms for Exchanges of Information between the United States Department of the Interior, Washington, D.C., and the National Coal Board of Hobart House, Grosvenor Place, London, S.W. 7AE, England</i> Comment: Exchange of Information — Agreement originally between Department of Interior and UK National Coal Board. Interior requested ERDA participation in 1975							
9/20/1976	9/20/1991	Expired	Primary DOE	True		Nuclear Energy	Fast Breeder Reactors
Title: <i>Agreement between the U.S. Department of Energy and the United Kingdom Atomic Energy Authority in the field of liquid metal-cooled fast breeder reactors</i> Comment: Exchange of LMFBR technology and data							
10/18/1984	4/30/1990	Expired	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Memorandum of Understanding between the Department of Energy of the United States and the Department of Energy of the United Kingdom of Great Britain and Northern Ireland on Collaboration in Energy Research and Development</i> Comment: Establishing wider cooperation in energy R&D. Superseded by							
10/21/1983	10/21/1986	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Dissolution of Fuel
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the United Kingdom Atomic Energy Authority in the Area of Dissolution of Fuel (Centrifugal Clarifier Agreement)</i> Comment:							
12/5/1985	12/5/1990	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Fiber-Optic Spectrophotometer
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the United Kingdom Atomic Energy Authority in the area of Measurement of Fissile Material Concentration in Reprocessing Plant Solutions</i> Comment: Investigate the performance of fiber-optic couple spectrophotometer for the measurement of fissile material concentrations							
7/5/1988	7/5/1993	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Solvent Extraction Centrifugal Contactors
Title: <i>U.S. Department of Energy - United Kingdom Atomic Energy Authority specific memorandum of agreement in the area of solvent extraction centrifugal contactors</i> Comment: Investigate the performance of centrifugal contactors for the extraction of fissile material and exchange of information derived							
5/10/1979	12/31/1988	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Nuclear—Higher Actinides
Title: <i>Specific Memorandum of Agreement between the Department of Energy and the United Kingdom Atomic Energy Authority in Performance of higher Actinide in Liquid Metal Cooled Fast Breeder Reactors</i> Comment: Joint experimental and analytical program to investigate the neutronic and irradiation performance of higher actinides in fast spectrum reactors							
11/5/1979	11/5/1987	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Fast Reactor Safety
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the United Kingdom Atomic Energy Authority in the area of reactor Safety in Liquid Metal Cooled Fast Breeder Reactors (The PIR/Treat Agreement)</i> Comment: Investigate the behavior of fuel pin under reactor core loss of cooling							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
2/26/1980	12/31/1988	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Fast Reactor Fuels and Cladding
Title: <i>United States Department of Energy and United Kingdom Atomic Energy Authority LMFBR Fuel Clad Swelling and Creep Experiments Agreement</i> Comment: Investigate "in-reactor" swelling and creep behavior of current and potential future fuel cladding in fast breeder reactors							
2/26/1980	12/31/1988	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Fast Reactor Cladding
Title: <i>The United States Department of Energy and United Kingdom Atomic Energy Authority LMFBR Fuel Pin Clad Irradiation Agreement</i> Comment: Investigate the behavior under irradiation of LMFBR fuels and cladding materials							
9/19/1986	9/30/1991	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Discrepancy Analysis of Enhanced Oil Recovery
Title: <i>Implementing Agreement between DOE and the Department of Energy of the United Kingdom of Great Britain and Northern Ireland in the Field of Discrepancy Analysis of Enhanced Oil Recovery Projects</i> Comment: Jointly undertake research in broad areas of discrepancy analysis							
10/8/1980	10/8/1985	Expired	Secondary DOE	True	Primary DOE	Nuclear Energy	Fast Reactor Fuel--Head End Shearing
Title: <i>Specific Memorandum of Agreement between the Department of Energy and the United Kingdom Atomic Energy Authority in the area of Mechanical Head End Searing of LMFBR Fuel Elements</i> Comment: Joint experimental and analytical program to investigate the performance of shearing							
11/3/1982	11/3/1986	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	Fast Reactor Safety
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the United Kingdom Atomic Energy Authority in the area of a Common Approach to LMFBR Safety Design Principles</i> Comment: Exchange of information on reactor safety							
5/26/1983	5/26/1991	Expired	Secondary DOE	False	Primary DOE	Nuclear Energy	LMFBR Fuel Head End Wastes--Calif. Shuffler
Title: <i>Specific Memorandum of Agreement between the United States Department of Energy and the United Kingdom Atomic Energy Authority in the Area of Measurement of Residual Fuel in LMFBR Head End Wastes (Californium 252 'Shuffler' Agreement)</i> Comment: Investigate the performance of a 252 Cf Shuffler systems for the measurement of residual fuel in LMFBR Head End Wastes							
10/18/1984	4/30/1990	Expired	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Memorandum of Understanding between the Department of Energy of the United States and the Department of Energy of the United Kingdom of Great Britain and Northern Ireland on Collaboration in Energy Research and Development</i> Comment: Establishing wider cooperation in energy R&D. Superseded by							
6/11/1990	6/11/2000	In Force	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Memorandum of understanding between the U.S. Department of Energy and the Department of energy of the United Kingdom of Great Britain and Northern Ireland on collaboration in energy research and development</i> Comment: To continue and maximize cooperation in energy research and development.							
6/11/1990	6/11/2000	In Force	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Memorandum of understanding between the U.S. Department of Energy and the Department of energy of the United Kingdom of Great Britain and Northern Ireland on collaboration in energy research and development</i> Comment: To continue and maximize cooperation in energy research and development.							
7/25/2002	7/25/2007	In Force	Primary DOE	True		Science and Technology	Implementing Agreement between DOE and Great Britain
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Secretary of State for Defence of the United Kingdom of Great Britain and Northern Ireland for Cooperation in Research and Development of Chemical and Biological Weapons Detection and Protection-Related Technologies</i> Comment:							
7/3/2002	7/3/2007	In Force	Primary DOE	True		Science and Technology	Gov't to Gov't agreement between US and Great Britain
Title: <i>Agreement between the Government of the United States of America and the Government of the United Kingdom of Great Britain and Northern Ireland for Cooperation in Research and Development of Weapons Detection and Protection-Related Technologies</i> Comment:							
11/6/2000	11/6/2010	In Force	Primary DOE	True		Energy Research and Development	MOU on Energy Research and Development

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Title: <i>Memorandum of Understanding Between The Department of Energy of the United States of America and The Department of Trade and Industry of the United Kingdom of Great Britain and Northern Ireland on Collaboration in Energy Research and Development</i>							
Comment: Provides for cooperation in Fossil Energy, Energy Efficiency, Renewable Energy and the waste-related management and the environment.							
11/17/2000	11/17/2005	In Force	Secondary DOE	True	Primary DOE	Environmental Management	AEA Technology plc
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and AEA Technology plc Under the Memorandum of Understanding on Energy R&D between the Department of Energy of the United States of America and the Department of Trade and Industry of the United Kingdom of Great Britain and Northern Ireland</i>							
Comment:							
3/10/2003	3/10/2008	In Force	Primary DOE	True		Fossil Energy	Cooperation in the Field of Fossil Energy Technology
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the Department of Trade and Industry of the United Kingdom of Great Britain and Northern Ireland to Cooperate in the Field of Fossil Energy Technology</i>							
Comment:							
3/10/2004	3/10/2009	In Force	Primary DOE	True		Environmental Management	
Title: <i>Implementing Arrangement between the Department of Energy of the United States of America and the United Kingdom Atomic Energy Authority for Exchange of Nuclear Reactor Technology Information Under the Memorandum of Understanding on Energy R&D between the Department of Energy of the United States of America and the Department of the United States of America and the Department of Trade and Industry of the United Kingdom of Great Britain and Northern Ireland</i>							
Comment:							
9/17/2001	9/17/2006	In Force	Primary DOE	True		Nuclear Verification Technologies	MOU between DOE and the Department of Trade and Industry of the United Kingdom
Title: <i>Memorandum of Understanding between the Department of Energy of the United States of America and the Department of Trade and Industry of the United Kingdom of Great Britain and Northern Ireland Concerning the Development and Implementation of Nuclear Verification Technologies</i>							
Comment:							
Country: Uzbekistan							
3/12/2002		In Force	Primary DOE	True		Arms Control and Nonproliferation	Proliferation of Nuclear Materials and Technologies
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Foreign Affairs of the Republic of Uzbekistan Concerning Cooperation in the area of Prevention of Proliferation of Nuclear Materials and Technologies</i>							
Comment:							
Country: Venezuela							
12/8/1990	12/8/1995	Expired	Intergovernmental	True		Science and Technology	Science & Technology
Title: <i>Agreement for Science and Technological Cooperation between the Government of the United States of America and the Government of the Republic of Venezuela</i>							
Comment: Promote and strengthen S&T for peaceful purposes through exchange of information, research projects, exchange of scientists and technical experts.							
10/13/1997	10/13/2002	In Force	Primary DOE	True		Energy Research and Development	Energy Cooperation
Title: <i>Agreement for Energy Cooperation between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela</i>							
Comment: Supersedes the March 6, 1980 Energy R&D agreement							
3/6/1980	9/8/1993	Expired	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Mines of Venezuela in the Field of Energy Research and Development</i>							
Comment: On Sept 8, 1993 an agreement was signed continuing Implementing Agreements, I, II, III, IV, VIII, X, XII, XIII, XIV and now referred to as annexes. The Sept 8, 1993 agreement was superceded by the Oct 13, 1997 Energy Cooperation Agreement. Annexes I, IV, X, XIV, XV, XVI, and XVII were transferred to the Oct 13, 1997 agreement.							
8/9/2001	8/9/2006	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex No. XVIII - Natural Gas Technologies
Title: <i>Project Annex No. XVIII to the Agreement for Energy Cooperation between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Bolivarian Republic of Venezuela in the area of Natural Gas Technologies</i>							
Comment:							
7/10/1980	10/13/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 1 - Crude Characterization
Title: <i>Project Annex I between the Department of Energy of the United States of America and the Ministry of Energy and Mines of Venezuela for the Joint Characterization of Heavy Crude Oils</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Exchange published technical information and jointly modify or develop new techniques for the characterization of heavy crude oil and heavy ends.							
9/29/1980	10/13/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 4 - Enhanced Oil Recovery Thermal Processes
Title: <i>Project Annex IV between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of Enhanced Oil Recovery Thermal Process</i>							
Comment: Cooperate in the application of additives to steam injection for the recovery of heavy oil thereby further efforts on the understanding of the thermal processes and the reservoir and its fluids where these processes are conducted.							
9/8/1993	9/8/1988	Expired	Primary DOE	True		Energy Research and Development	Energy R&D
Title: <i>Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Field of Energy Research and Development</i>							
Comment:							
7/10/1980	9/8/1998	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Project Annex 2 - Heavy Crude Characterization
Title: <i>Implementing Agreement II between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela to Cooperation in Supporting Research at Universities, Government Energy Technology Centers, and National Laboratories</i>							
Comment: Exchange published technical information and jointly modify or develop new techniques for the characterization of heavy crude oil and heavy ends.							
9/29/1980	12/31/1982	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 5 - Oil Drilling
Title: <i>Implementing Agreement V between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Areas of Oil Drilling, Coring, and Telemetry</i>							
Comment: SEMI-ANNUAL CRITIQUE MEETINGS OF RESEARCH PROJECTS							
9/29/1980	12/31/1982	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 6 - Residual Oil Saturation
Title: <i>Implementing Agreement VI between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of Residual Oil Saturation</i>							
Comment: SEMI-ANNUAL CRITIQUE MEETINGS OF RESEARCH PROJECTS							
2/5/1982	12/31/1983	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 7 - Petroleum Products
Title: <i>Implementing Arrangement VII between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of Petroleum Products Utilization and Evaluation</i>							
Comment:							
2/5/1982	9/8/1998	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 8 - Coal Preparation and Combustion
Title: <i>Project Annex VIII between the Department of Energy of the United States of American and the Ministry of Energy and Mines of Republic of Venezuela to Cooperate in Coal Preparation, Combustion & Related Analytical Technology at Universities, Government Energy Technology Centers, and National Laboratories</i>							
Comment: Cooperate in coal technologies at universities, energy technology centers and national laboratories.							
7/12/1983	12/31/1988	Expired	Secondary DOE	False	Primary DOE	Fossil Energy	Project Annex 9 - Oil Field Subsidence
Title: <i>Annex IX Implementing Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of Subsidence Due to Fluid Withdrawal</i>							
Comment:							
2/29/1988	8/29/1991	Expired	Secondary DOE	True	Primary DOE	Energy Efficiency and Renewable Energy	Project Annex 11 - Conservation
Title: <i>Implementing Agreement No. XI between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic Venezuela in the Area of Energy Conservation</i>							
Comment: INFORMATION EXCHANGE							
8/14/1987	9/8/1998	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 12 - Geochemistry
Title: <i>Annex XII of the Implementing Agreement between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of Geochemistry</i>							
Comment: Cooperate in research in the area of petroleum generation in the Macacaibo Basin (geochemistry).							
2/29/1988	8/29/1991	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 13 - Microbial EOR
Title: <i>Implementing Agreement No. XIII to the Agreement between Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of Microbial Enhanced Oil Recovery</i>							

All Bilateral Agreements

Start Date	End Date	Status	Agreement Type	Legally Binding	Parent Type	DOE Office	Brief Description
Comment: Cooperate in the area of application of microbial enhanced oil recovery in the Venezuelan petroleum reservoirs.							
8/15/1995	10/13/2002	In Force	Secondary DOE	False	Primary DOE	Fossil Energy	Annex 16 - Oil and Petrochemical Ecology and Environmental Research
Title: <i>Implementing Agreement XVI to the Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of Oil and Petrochemistry Ecology and Environmental Research</i>							
Comment: Information exchange, biotechnology update and analysis of industrial and environmental trends.							
9/7/1995	10/13/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Annex 17 - Drilling Technology
Title: <i>Implementing Agreement XVII to the Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of Drilling Technology</i>							
Comment: Exchange information and training of personnel on drilling technologies for more efficient and cost-effective methods drilling.							
3/14/1984	10/13/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 10 - Training of Petroleum Engineers
Title: <i>Project Annex X between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela for On-Site Training of Petroleum Engineers</i>							
Comment: Training of Venezuelan petroleum engineers at Elks Hills Naval Petroleum Facility.							
2/16/1989	10/13/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 14 - Exchange of Energy-Related Personnel
Title: <i>Project Annex XIV between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela for the Exchange of Energy-Related Personnel</i>							
Comment: DOE and MEMV shall cooperate in using their good offices and taking all reasonable steps to facilitate the exchange of energy-related personnel between Venezuela and the U.S. in the areas of fossil energy.							
4/26/1994	10/13/2002	In Force	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 15 - Oil Recovery Information and Tech. Transfer
Title: <i>Implementing Agreement XV to the Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela in the Area of "Oil Recovery Information and Technology Transfer"</i>							
Comment: Evaluate past and ongoing improved oil recovery projects in US and Venezuela; Data base compilation and exchange							
7/10/1980	9/8/1998	Expired	Secondary DOE	True	Primary DOE	Fossil Energy	Project Annex 3 - Enhanced Oil Recovery Evaluation
Title: <i>Project Annex III between the Department of Energy of the United States of America and the Ministry of Energy and Mines of the Republic of Venezuela to Evaluate Past and On-going Enhanced Oil Recovery Projects in the United States and Venezuela</i>							
Comment: Develop a consistent and comprehensive database on the performance of enhanced oil recovery projects.							
Country: Yugoslavia							
5/1/1988	5/31/1993	Expired	Intergovernmental	False		Science and Technology	Science & Technology
Title: <i>Agreement between the Government of the United States of America and the Federal Executive Council of the Assembly of the Socialist Federal Republic of Yugoslavia on Scientific and Technological Cooperation</i>							
Comment: Cooperate in S&T projects of mutual interest and benefit in such fields as agriculture, energy, engineering, environment, health, medical sciences, natural and social sciences, natural resources, technology and transportation.							

Table of Contents

- 1) Arrangement between the United States Department of Energy and the Canadian Nuclear Safety Commission for Critical Infrastructure Protection Training – **Tab 1**
- 2) Memorandum of Understanding between the Government of the United States of America and the Government of the People's Republic of China Concerning Cooperation in the Area of Advanced Pressurized Water Reactor Nuclear Power Projects in China and Related Technology Transfer – Signed by S. Bodman – **Tab 2**
- 3) Memorandum of Understanding between the Department of Energy of the United States of America and the National Development and Reform Commission of the People's Republic of China Concerning Industrial Energy Efficiency Cooperation – **Tab 3**
- 4) Protocol between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization – Signed by S. Bodman – **Tab 4**
- 5) Annex II to the Protocol between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization for Electric, Hybrid-Electric, Fuel Cell, and Alternative Fuel Vehicle Development – **Tab 5**
- 6) Project Annex III under Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Industry and Energy of the Kingdom of Spain on Cooperation in Research on Radiological Evaluations – **Tab 6**
- 7) Agreement between the Japan Atomic Energy Agency and the Department of Energy of the United States of America for Cooperation in Research and Development in Nuclear Science and Energy – **Tab 7**
- 8) Technical Cooperation Agreement between the United States of America and the Kingdom of Saudi Arabia – Signed by Condoleezza Rice – **Tab 8**
- 9) Agreement to Extend the Protocol for Cooperation in the Field of Fossil Energy Technology Development and Utilization between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China – **Tab 9**

10) Joint Statement of Intent by the Department of Energy of the United States of America and the Customs General Administration, the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China Concerning Exploration of Cooperation in Nuclear and Other Radioactive Material Detection – **Tab 10**

11) Memorandum of Understanding Among the General Administration of Customs, the General Administration of Quality Supervision, Inspection, and Quarantine of the People's Republic of China and the Department of Energy of the United States of America Concerning Cooperation to Prevent the Illicit Trafficking in Nuclear and other Radioactive Material – **Tab 11**

12) Terms of Reference for the International Partnership for Energy Development in Island Nations – **Tab 12**

13) Extension and Amendment of Implementing Arrangement No. 1 under the Agreement between the Department of Energy of the United States of America and the Commissariat à l'Énergie Atomique of France for Cooperation in Advanced Nuclear Reactor Science and Technology – **Tab 13**

14) Agreement between the Department of Energy of the United States of America and the Institut De Radioprotection Et De Surete Nucleaire of France for Cooperation in Research and Development in the Physical Protection of Nuclear Material and Facilities and in Nuclear Material Safeguards Technologies – **Tab 14**

15) U.S. DOE, Sweden STEM-AB Volvo/Mack Trucks Program on Advanced Vehicle Technology – **Tab 15**

16) Implementing Arrangement Concerning Irradiation of Structural Material Specimens in the Phenix Reactor Under the Agreement between the Department of Energy of the United States of America and the Commissariat à l'Énergie Atomique of France for Cooperation in Advanced Nuclear Reactor Science and Technology – **Tab 16**

17) Project Annex Repository Geoscience and PA Technology Development Under the Agreement Between the Department of Energy of the United States of America and the Japan Atomic Energy Agency for Cooperation in Research and Development in Nuclear Science and Energy – **Tab 17**

18) Arrangement between the Department of Energy of the United States of America and the Ministry of Petroleum and Natural Gas of the Republic of India for the Exchange of Information Relating to the Hydrocarbon Sector – **Tab 18**

19) Revision No. 1 to Memorandum of Understanding Among the Department of Energy of the United States of America and the Commissariat À L'Énergie Atomique of the French Republic and the Japan Atomic Energy Agency Concerning Cooperation on Sodium – Cooled Fast Reactor Prototypes – **Tab 19**

20) Non-Disclosure Arrangement Concerning Cooperation on Sodium-Cooled Fast Reactor Prototypes – **Tab 20**

21) Implementation Agreement 4 between the Department of Energy of the United States of America and the Ministry of National Infrastructure of the State of Israel for Cooperation in the Field of Renewable Energy and Energy Efficiency – **Tab 21**

22) Statement of Intent between the Department of the United States of America and the Ministry of Economy, Trade and Industry of Japan for Cooperation in Methane Hydrates – Signed by S. Bodman – **Tab 22**

23) Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry for Economy and Innovation of the Portuguese Republic on Cooperation in Wave Energy Technologies – Signed by S. Bodman – **Tab 23**

24) Statement of Intent between the Department of Energy of the United States of America and the Ministry of Knowledge Economy of the Republic of Korea for Exchange of Information on Gas Hydrate Research and Development – Signed by S. Bodman – **Tab 24**

25) Memorandum of Understanding between the Government of the United States of America and the Government of the Hashemite Kingdom of Jordan Concerning Cooperation in Nuclear Energy and other Energy Fields – Signed by S. Bodman – **Tab 25**

26) Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of National Infrastructures of the State of Israel Concerning Cooperation on Renewable and Sustainable Energy – Signed by S. Bodman – **Tab 26**

27) Memorandum of Understanding between the Department of Energy of the United States of America and the Ministry of Oil of the Republic of Iraq for Cooperation on Energy Analysis, Science and Technology, and Energy Technology Demonstration – **Tab 27**

28) Agreement between the Department of Energy of the United States of America and the Centre National de la Recherche Scientifique of France for Cooperation in Basic Scientific Research and Development – **Tab 28**

ARRANGEMENT
BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY
AND
THE CANADIAN NUCLEAR SAFETY COMMISSION
FOR CRITICAL ENERGY INFRASTRUCTURE PROTECTION TRAINING

The United States Department of Energy (DOE) and the Canadian Nuclear Safety Commission (CNSC), hereinafter collectively the "Participants,"

Noting that section 573 of the Foreign Assistance Act of 1961, as amended (FAA), authorizes, subject to appropriate terms and conditions, any agency of the United States Government to furnish certain services and commodities to an eligible foreign country on an advance-of-funds basis; and

Noting that the Director of United States Foreign Assistance, U.S. Department of State, has authorized DOE, under FAA section 573, to provide the training jointly determined by the Participants herein,

HAVE REACHED THE FOLLOWING UNDERSTANDING:

I. PURPOSE

- A. The purpose of this Arrangement is to establish a framework for the provision by DOE's National Training Center of certain agreed training to CNSC protective force personnel responsible for guarding Canadian civil nuclear facilities (hereafter the "Services").
- B. DOE is to be responsible for providing the services, materials, personnel and other resources necessary for performance and completion of the jointly decided Services. CNSC is to provide funds to DOE for provision of the Services on an advance-of-funds basis.

II. VALUE OF SERVICES

- A. The total gross value of the Services contemplated to be provided under this Arrangement is Sixty Thousand United States Dollars (\$US 60,000.00), to be allocated against compensation for the Services.
- B. DOE's reimbursement for Services is to be based on the rates specified in Annex A. The Annex may be revised from time to time as necessary.

III. ADVANCE PAYMENT TERMS AND CONDITIONS

- A. CNSC is to make full advance payment for the full cost of the Services, including any necessary expenses and related costs, in United States dollars (the "Account"), in accordance with arrangements mutually decided by the Participants.
- B. DOE is to keep accounts and records of the costs of the Services provided, in accordance with its relevant regulations and generally accepted accounting principles, including those related to audits. DOE is to provide CNSC with a monthly accounting of disbursements from the Account for the Services. DOE is to return to the CNSC any CNSC funds remaining in the Account upon termination of or the completion of the Services by DOE.
- C. CNSC is to be responsible for all costs associated with delivery of the Services, including, but not limited to, travel between the United States and Canada and within the United States, lodging, meals, visas, supplies and equipment, and translation services. These costs are to be subject to DOE's normal budgetary guidelines and approvals. In the event that CNSC should for any reason decide to cancel or postpone a training event and/or be unable to meet required operational deadlines, CNSC is to be responsible for any expenses related to cancellation of scheduled activities.

IV. POINTS OF CONTACT

- A. For purposes of facilitating communication under this Arrangement, CNSC hereby designates as its point of contact:
- Director
Nuclear Security Division
Directorate of Security and Safeguards
Technical Support Branch
Canadian Nuclear Safety Commission
- B. For the same purpose, DOE hereby designates as its point of contact:
- Director
National Training Center
Office of Health, Safety and Security
U.S. Department of Energy
- C. Each point of contact is authorized to act on behalf of his/her respective Participant in all matters and issues related to provision of the Services covered under this Arrangement.

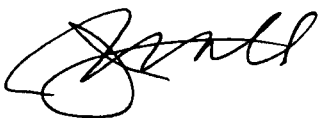
V. GENERAL PROVISIONS

- A. Cooperation under this Arrangement may commence upon signature by both Participants.
- B. This Arrangement may be revised at any time.
- C. The Participants may discontinue this Arrangement at any time in writing. Either Participant may discontinue its participation in this Arrangement by giving at least 90 days' advance notice in writing to the other Participant.

- D. Upon termination of this Arrangement, CNSC is to be liable for, and DOE is to retain payment for, all financial commitments made by DOE related to this Arrangement prior to the effective date of cessation.

Signed in duplicate.

FOR THE UNITED STATES
DEPARTMENT OF ENERGY:




Date: 9/12/08

Place:

Albuquerque New Mexico

FOR THE CANADIAN NUCLEAR
SAFETY COMMISSION:



Date: 9/12/08

Place:

Albuquerque, New Mexico.

ANNEX A

Schedule of Estimated Costs

The following estimate of costs is provided in support of the provision of training by the DOE National Training Center to protective force personnel sponsored by the Canadian Nuclear Safety Commission (CNSC).

The costing data presented consists of labor costs, other direct costs (supplies and support), contractor fees, and New Mexico Gross Receipts Tax.

Labor Costs

NTC Full Time Employees	\$11,974.09	
Intermittent Part-Time Instructors	\$7,696.00	
Sub-Total		\$ 19,670.09

Other Direct Costs

Supplies – Ammunition	\$ 6,538.50	
Supplies – General	\$ 187.00	
Supplies – Course Material, Hand-Outs	\$ 121.23	
Honeywell Support	\$ 14,453.00	
Sub-Total		\$ 21,299.73

Administrative Costs

Labor Overhead	\$ 6,946.94	
Contractor Fees	\$ 8,246.03	
Sub-Total		\$ 15,192.97

New Mexico Gross Receipts Tax

Sub-Total	<u>\$ 3,264.46</u>
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TOTAL:	\$59,427.25
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MEMORANDUM OF UNDERSTANDING

BETWEEN

THE GOVERNMENT OF THE UNITED STATES OF AMERICA

AND

THE GOVERNMENT OF THE PEOPLE'S REPUBLIC OF CHINA

CONCERNING COOPERATION IN THE AREA OF ADVANCED
PRESSURISED WATER REACTOR NUCLEAR POWER PROJECTS IN
CHINA AND RELATED TECHNOLOGY TRANSFER

THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF THE PEOPLE'S REPUBLIC OF CHINA (TOGETHER HEREINAFTER REFERRED TO AS THE SIGNATORIES) :

RECOGNIZING THAT THE UNITED STATES OF AMERICA AND THE PEOPLE'S REPUBLIC OF CHINA ARE NATIONS POSSESSING NUCLEAR WEAPONS AND ARE SIGNATORIES TO THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS AND MEMBERS OF THE INTERNATIONAL ATOMIC ENERGY AGENCY;

NOTING THE AGREEMENT FOR COOPERATION BETWEEN THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF THE PEOPLE'S REPUBLIC OF CHINA CONCERNING PEACEFUL USES OF NUCLEAR ENERGY, SIGNED JULY 23, 1985 (HEREINAFTER REFERRED TO AS THE 1985 AGREEMENT);

NOTING THE AGREEMENT BETWEEN THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA (HEREINAFTER REFERRED TO AS THE DEPARTMENT OF ENERGY) AND THE STATE DEVELOPMENT AND PLANNING COMMISSION OF THE PEOPLE'S REPUBLIC OF CHINA ON COOPERATION CONCERNING PEACEFUL USES OF NUCLEAR TECHNOLOGIES, SIGNED JUNE 29, 1998;

NOTING THE STATEMENT OF INTENT ON EXCHANGE OF GOVERNMENT ASSURANCES REQUIRED FOR TRANSFER AND MUTUAL EXCHANGES OF NUCLEAR TECHNOLOGY BETWEEN THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA AND CHINA ATOMIC ENERGY AUTHORITY , SIGNED SEPTEMBER 16, 2003;

NOTING THAT THE PEACEFUL USE OF NUCLEAR ENERGY IS AN IMPORTANT FACTOR FOR BOTH COUNTRIES;

HAVE REACHED THE FOLLOWING UNDERSTANDING:

ARTICLE 1

RECOGNIZING THAT THE UNITED STATES GOVERNMENT HAS AUTHORIZED THE EXPORT TO THE PEOPLE'S REPUBLIC OF CHINA OF WESTINGHOUSE AP1000 TECHNOLOGY FOR USE IN THE SANMEN AND YANGJIANG AND OTHER AP1000 CIVILIAN NUCLEAR POWER PLANTS IN CHINA, HAS ISSUED LICENSES FOR THE EXPORT TO THE PEOPLE'S REPUBLIC OF CHINA OF RELATED EQUIPMENT, FUEL AND SERVICES NECESSARY FOR THE USE OF AP1000 TECHNOLOGY IN THE CONSTRUCTION OF THE SANMEN AND YANGJIANG CIVILIAN NUCLEAR POWER PLANTS, AND HAS PROVIDED LETTERS EXPRESSING THE SUPPORT OF THE UNITED STATES GOVERNMENT FOR THE EXPORT OF AP1000 TECHNOLOGY AND EQUIPMENT TO CHINA BY WESTINGHOUSE FOR USE IN THOSE TWO PROPOSED PLANTS, THE GOVERNMENT OF THE UNITED STATES REAFFIRMS THAT IT SEES NO OBSTACLES TO THE APPROVAL OF NUCLEAR ENERGY PLANT EXPORTS FROM THE UNITED STATES TO THE PEOPLE'S REPUBLIC OF CHINA, CONSISTENT WITH THE 1985 AGREEMENT, FOR THE PROPOSED SANMEN AND YANGJIANG CIVILIAN NUCLEAR PLANT PROJECTS. THE GOVERNMENT OF THE UNITED STATES IS PREPARED TO TAKE ALL APPROPRIATE STEPS, SUBJECT TO UNITED STATES LAWS AND REGULATIONS, TO FACILITATE SUCH TRANSACTIONS IF THE CHINESE ENTERPRISES DECIDE TO PURCHASE THE WESTINGHOUSE AP1000 TECHNOLOGY AND RELATED EQUIPMENT. THE GOVERNMENT OF THE UNITED STATES HAS AUTHORITY TO LICENSE THE EXPORT OF WESTINGHOUSE NUCLEAR EQUIPMENT AND TECHNOLOGY FROM THE UNITED STATES. THE GOVERNMENT OF THE UNITED STATES OF AMERICA REITERATES ITS SUPPORT FOR THESE EXPORTS TO CHINA, AND AFFIRMS THAT FUTURE EXPORTS OF EQUIPMENT, FUEL, AND SERVICES RELATED TO CONSTRUCTION OF OTHER AP1000 TECHNOLOGY PROJECTS WILL BE TREATED IN ACCORDANCE WITH THIS MOU, AS

LONG AS SUCH EXPORTS ARE CONSISTENT WITH UNITED STATES LAWS AND REGULATIONS.

ARTICLE 2

IN ORDER TO FACILITATE THE SUCCESSFUL CONSTRUCTION AND COMPLETION OF THE SANMEN AND YANGJIANG NUCLEAR POWER PROJECTS WITH WESTINGHOUSE; AND THE TRANSFER OF TECHNOLOGY AND EXPORT OF EQUIPMENT BY WESTINGHOUSE TO CHINA; AND TO PROMOTE THE DEVELOPMENT OF ECONOMIC AND TRADE RELATIONS AND STRENGTHEN COOPERATION IN THE FIELD OF ENERGY BETWEEN THE SIGNATORIES, AND IN VIEW OF THE FACT THAT THE AP1000 REACTOR MODEL FALLS WITHIN THE SCOPE OF COOPERATION SET FORTH IN THE 1985 AGREEMENT, IT IS THE INTENTION OF THE SIGNATORIES THAT THIS MEMORANDUM OF UNDERSTANDING SUPPORT THE EXPORT TO CHINA AND UTILIZATION THERE OF WESTINGHOUSE AP1000 NUCLEAR ENERGY TECHNOLOGY IN CIVILIAN NUCLEAR POWER PROJECTS WITHIN THE SCOPE OF COOPERATION OF THE 1985 AGREEMENT.

ARTICLE 3

THE SIGNATORIES AFFIRM THAT INSTALLATION OF THE AP1000 NUCLEAR GENERATING UNITS AT THE SANMEN and YANGJIANG CIVILIAN NUCLEAR POWER PLANTS AND RELATED TECHNOLOGY TRANSFER ARE KEY PROJECTS FOR ENERGY COOPERATION BETWEEN THE GOVERNMENTS OF CHINA AND THE UNITED STATES. THE SIGNATORIES INTEND TO INCLUDE THIS TOPIC IN THE ANNUAL DIALOGUE BETWEEN THE TWO GOVERNMENTS IN THE FIELD OF ENERGY AND TO ATTEMPT TO ADDRESS IN A TIMELY MANNER ANY PROBLEMS THAT MAY ARISE IN THE IMPLEMENTATION OF THESE PROJECTS.

ARTICLE 4

THE SIGNATORIES AFFIRM THAT THE CONSTRUCTION AND IMPLEMENTATION OF THE SANMEN AND YANGJIANG CIVILIAN NUCLEAR

POWER PROJECTS, USING WESTINGHOUSE AP1000 TECHNOLOGY
CONSTITUTE COMMERCIAL TRANSACTIONS, UNDER THE LAWS AND
REGULATIONS OF EACH SIGNATORY. THE SIGNATORIES CONFIRM THAT
THE MUTUAL ASSURANCES CONTAINED IN THIS MEMORANDUM OF
UNDERSTANDING ARE TO BE APPLIED TO ENSURE THE EXECUTION OF
THE PROJECTS WITHOUT ANY HINDRANCE, TO THE EXTENT THAT IS
POSSIBLE WITHIN LAWS AND REGULATIONS, AND IN ACCORDANCE WITH
THE ABOVE MENTIONED AGREEMENTS.

ARTICLE 5

THIS MEMORANDUM OF UNDERSTANDING BECOMES EFFECTIVE UPON
SIGNATURE BY BOTH SIGNATORIES.

SIGNED IN BEIJING, CHINA ON DECEMBER 16, 2006, IN DUPLICATE
IN THE ENGLISH AND CHINESE LANGUAGES.

FOR THE GOVERNMENT
OF THE UNITED STATES OF
AMERICA

Handwritten signature of Samuel W. Bodman in black ink.

FOR THE GOVERNMENT OF
THE PEOPLE'S REPUBLIC OF
CHINA

Handwritten signature in Chinese characters, reading '马凯' (Ma Kai), in black ink.

**MEMORANDUM OF UNDERSTANDING
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE NATIONAL DEVELOPMENT AND REFORM COMMISSION OF THE
PEOPLE'S REPUBLIC OF CHINA
CONCERNING
INDUSTRIAL ENERGY EFFICIENCY COOPERATION**

The Department of Energy of the United States of America (DOE) and the National Development and Reform Commission of the People's Republic of China (NDRC), jointly referred to herein as the "Participants";

RECOGNIZING that the development and use of energy are key elements of the economic growth of the United States and the People's Republic of China (PRC);

SHARING common serious energy challenges from increasing energy imports and worsening environmental impacts as energy use rises;

SHARING the sense of commitment to enhancing energy security through cooperation;

NOTING the prominence of the industrial sector as an energy consumer in the PRC, accounting for 70 percent of the country's total energy demand;

NOTING the PRC's energy efficiency goals in its 11th Five-Year Plan (2006-10) and its call for a 20 percent reduction of energy consumption per GDP unit by 2010 compared to that of 2005; and

NOTING that the cooperation on industrial energy efficiency assessments was discussed at the second United States-China Energy Policy Dialogue, which met in Hangzhou, PRC, on September 13-14, 2006, and extended during the second Strategic Economic Dialogue which met in Washington, DC on May 22-23, 2007;

HEREBY declare their intention to jointly promote industrial energy efficiency improvements and emissions reductions through the establishment of programs and activities designed to strengthen the PRC's national, regional and local energy efficiency ability to make improvements at energy-intensive factories and facilities.

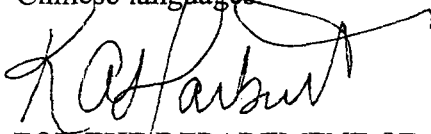
The first phase of this effort is to conduct industrial energy efficiency assessments, according to the following parameters:

1. DOE and the NDRC intend to cooperate to carry out the industrial energy efficiency assessment. The Participants' leading representatives in this cooperation are: Department of Resource Conservation and Environment Protection of NDRC and Energy Efficiency and Renewable Energy Office of DOE.

2. NDRC is responsible for selecting approximately 8-12 enterprises from the "Top 1000" energy-intensive enterprises in the PRC that have a sufficient level of short-term funding and can be reasonably expected to implement feasible energy efficiency improvements recommended by the DOE and NDRC assessment teams.
3. A team of DOE-assembled industrial energy efficiency experts, along with a similar team assembled by NDRC, plan to conduct on-site plant audits of the production process and plant energy systems at selected PRC plants utilizing all available data that the host enterprise provides.
4. The DOE and NDRC assessment teams should report verbally and in writing to the PRC enterprises, and to the relevant PRC local, provincial and central government bodies on short-term, medium-term and long-term recommendations to save energy and money, and reduce greenhouse gas emissions in the host factories.
5. DOE intends to pay for travel, accommodations, consumables, equipment and professional fees associated with DOE energy experts conducting each enterprise assessment.
6. DOE intends to provide software decision tools needed to conduct plant energy audits and to train factory personnel on the use of the software and plant audit techniques. DOE and NDRC plan to discuss ways to translate and re-engineer software tools and training materials. DOE plans to pay the costs of conducting the activities identified in this paragraph.
7. As part of plant energy audits, DOE energy experts plan to identify improvements that save energy, and to provide information on equipment suppliers from the United States who can assist in implementing improvements.
8. DOE also plans to identify potential technology and demonstrations for highly-efficient boilers, fired heaters, combined heat and power units and other substitute energy technologies.
9. DOE proposes to lead the development of a comparison study of selected PRC Top 1000 enterprises and selected large U.S. manufacturing plants in the steel, non-ferrous, petrochemical, chemical, and cement industries, and to identify differences in best practices between counterpart plants/industries.
10. DOE and NDRC intend to prepare a policy study to compare U.S. and PRC energy efficiency strategies, energy efficiency laws, policies, standards and energy efficiency management.

11. DOE and the NDRC intend to collaborate on developing plant efficiency standards which could be used as the basis of a PRC national energy efficiency label and ISO standard.
12. DOE intends to provide energy experts for training sessions in the United States and the PRC and for field visits to familiarize PRC energy-saving management personnel, including government personnel, energy-saving supervisory and monitoring personnel, energy policy research personnel and the management of big energy consumption enterprises, with U.S. energy saving laws, policies, advanced energy saving procedures and technologies and best practices.
13. The Participants expect PRC enterprises that participate in the assessment to designate a counterpart team, whose members are experienced in and knowledgeable of the production process and are available to work closely with the DOE and NDRC assessment teams.
14. The Participants understand that U.S. in-kind contributions to the cooperative activities undertaken under this Memorandum of Understanding (Memorandum) are not to be subject to any form of import tax, duty or other charge assessed by the PRC.
15. DOE and NDRC understand that U.S. personnel who conduct the assessments under this Memorandum may be required to conclude written agreements with PRC enterprises, as appropriate, for the non-disclosure of the enterprises' business-confidential information.
16. This Memorandum does not create any legally binding obligations between the Participants.

Signed at San Francisco, this 12th day of September, 2007, in duplicate in the English and Chinese languages


FOR THE DEPARTMENT OF
ENERGY OF THE UNITED
STATES OF AMERICA:

FOR THE NATIONAL DEVELOPMENT
AND REFORM COMMISSION OF THE
PEOPLE'S REPUBLIC OF CHINA:



4

PROTOCOL
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF SCIENCE AND TECHNOLOGY OF
THE PEOPLE'S REPUBLIC OF CHINA
FOR COOPERATION IN THE FIELDS OF ENERGY EFFICIENCY AND
RENEWABLE ENERGY TECHNOLOGY DEVELOPMENT AND
UTILIZATION

The Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China ("the Parties"):

Considering the cooperation between the countries in science and technological development pursuant to the Agreement between the Government of the United States of America and the Government of the People's Republic of China on Cooperation in Science and Technology signed on January 31, 1979, as amended and extended ("Umbrella Agreement");

Noting expiration of the Protocol between the Department of Energy of the United States of America and the State Science and Technology Commission of the People's Republic of China for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization signed February 23, 1995, as extended and amended ("1995 Protocol");

Desiring to continue the cooperation undertaken under the now-expired 1995 Protocol in the fields of energy efficiency and renewable energy technology development and utilization for the mutual benefit of each Party;

Recognizing that there is a mutual interest in promoting the acceleration of scientific and technological research and development in the fields of energy efficiency and renewable energy technology, and the commercialization of technologies developed through such activities; and

Believing that such research and development will accelerate the supplementation of fossil fuels with clean energy sources and promote economic and trade cooperation;

HAVE AGREED AS FOLLOWS:

ARTICLE 1
SCOPE AND OBJECTIVE

- A. This Protocol is subject to the Umbrella Agreement. In the event of any conflict between the terms and conditions of the Umbrella Agreement and this Protocol, the terms and conditions of the Umbrella Agreement will govern.
- B. The objective of this Protocol is to promote technological cooperation between the Parties in the fields of energy efficiency and renewable energy technology development and utilization.

ARTICLE 2 AREAS OF COOPERATION

- A. Cooperation under this Protocol in the field of energy efficiency technology may take place in the following areas:
1. Energy conservation technology in construction;
 2. Energy conservation technology in transportation and technology for alternative automobile fuel;
 3. Energy conservation technology in industries; and
 4. Such other areas in the field of energy efficiency technology as may be mutually agreed to, in advance, in writing, by the Parties.
- B. Cooperation under this Protocol in the field of renewable energy may include the following areas:
1. Solar energy;
 2. Wind energy;
 3. Biomass energy;
 4. Geothermal energy;
 5. Ocean energy;
 6. Hydrogen energy; and
 7. Such other areas in the field of renewable energy as may be mutually agreed, in advance, in writing, by the Parties.

ARTICLE 3 FORMS OF COOPERATION

Cooperative activities undertaken pursuant to this Protocol may include the following:

- A. Exchange of technical information and data on science and technical activities and methods and results of research and development;
- B. Exchange visits concerning the design and implementation of national renewable energy technologies and energy efficiency technology, including operational procedures, management and oversight, policy analysis, technology transfer and commercialization;
- C. Organization of, and participation in, technological demonstrations and seminars and other meetings on specific mutually agreed topics;
- D. Exchanges of information concerning commercialization and market potentials;
- E. Joint projects in which the Parties agree to share the work and costs; and
- F. Such other cooperation as may be agreed by the Parties, in advance, in writing.

ARTICLE 4 PROJECT ANNEX

The Parties shall execute a Project Annex for each joint project undertaken under Article 3.E. of this Protocol. Each Project Annex, which shall be subject to this Protocol, shall contain provisions covering technical scope, exchange of proprietary information, management, total costs, cost sharing and schedule, as appropriate.

ARTICLE 5 MANAGEMENT

- A. Each Party shall name one Principal Coordinator to supervise activities under this Protocol. The Principal Coordinators shall, by correspondence, consult with each other at least annually to evaluate the status of cooperation under this Protocol. This evaluation will include review of the achievements, problems, and effectiveness of activities under this Protocol. The Principal Coordinators also will consider future program opportunities with a view to maximizing the mutual benefits of cooperation. When necessary, the Principal Coordinators shall meet to consider matters related to the implementation of this Protocol. Such meetings shall be held alternately in the United States of America and the People's Republic of China.
- B. Subject to the prior approval of the Parties, the Principal Coordinators shall appoint Project Coordinators to manage specific cooperative activities initiated under this Protocol and to establish and maintain working contacts at the staff level.

ARTICLE 6 ADDITIONAL ORGANIZATIONS

The Parties may invite additional organizations within their own countries to participate, at those organizations' own expense, and subject to such terms and conditions as the Parties may specify, in cooperative activities under this Protocol. Such organizations may become signatories to annexes to this Protocol upon agreement of both Parties in writing.

ARTICLE 7 ASSIGNMENT OF STAFF

The following provisions shall apply to assignment of staff:

- A. Each Party shall ensure that qualified staff is selected for assignment to the other Party. Each assignment of staff shall be the subject of an exchange of letters between the participating institutions.
- B. Each Party shall be responsible for its staff's salaries, insurance, and allowances, and for the travel and living expenses of its staff while on assignment to the receiving Party unless otherwise agreed, in advance, in writing, by the Parties.
- C. The receiving Party shall provide all necessary assistance to the visiting staff and their families as regards administrative formalities, such as making travel arrangements.
- D. The sending Party shall ensure that its staff conforms to the general and special rules of work and safety regulations in force at the establishment of the receiving Party, unless otherwise agreed in a separate assignment agreement.

ARTICLE 8 INTELLECTUAL PROPERTY AND INFORMATION

- A. Dissemination, use and protection of information used or generated in the activities conducted pursuant to this Protocol and its annexes, and the allocation of rights in intellectual property arising in the course of such activities shall be governed by the provisions set forth in Annex I to the Umbrella Agreement.

- B. Any scientific and technical information provided by one Party to the other Party pursuant to this Protocol shall be accurate to the best knowledge and belief of the providing Party; however, neither Party warrants the suitability of the information for any particular use or application by the receiving Party or any third party.

ARTICLE 9 AVAILABLE INFORMATION

Each Party shall make available to the other technical information that is: (1) relevant to or necessary for activities conducted under this Protocol; and (2) either in the Party's possession or available to it and which it has the right to disclose.

ARTICLE 10 SECURITY OBLIGATION

Both Parties agree that no information or equipment requiring protection in the interest of national security, defense or foreign relations and classified in accordance with its applicable national laws, regulations or directives shall be provided under this Protocol. In the event that information or equipment which is known or believed to require such protection is identified by a Party in the course of cooperative activities pursuant to this Protocol, it shall be brought immediately to the attention of the appropriate officials of the other Party. The Parties shall consult to identify and implement appropriate security measures for such information and equipment, to be agreed upon by the Parties in writing. The Parties shall, if appropriate, amend this Protocol to incorporate such security measures.

ARTICLE 11 COSTS

Unless otherwise agreed in writing, costs resulting from activities under this Protocol shall be the responsibility of the Party that incurs them.

ARTICLE 12 APPLICABLE LAW AND AVAILABILITY OF RESOURCES

Each Party shall conduct the activities provided for in this Protocol subject to the applicable laws and regulations of its respective country, and shall provide resources subject to the availability of its personnel and appropriated funds.

ARTICLE 13 DISPUTES

Any dispute concerning the interpretation or application of this Protocol shall be settled by consultation of the Parties.

ARTICLE 14 GENERAL PROVISIONS

- A. This Protocol shall enter into force upon signature and, subject to paragraph D of this Article, shall remain in force for five (5) years.
- B. This Protocol may be amended or extended by written agreement of the Parties.
- C. The Parties may agree to continue until completion all activities initiated but not completed at the expiration of this Protocol.

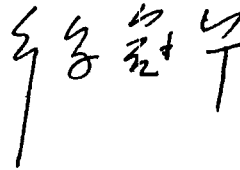
D. Either Party may terminate this Protocol at any time upon six (6) months advance written notice to the other Party.

DONE at Beijing, this 15th day of December, 2006, in duplicate, in the English and Chinese languages, each text being equally authentic.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:

Handwritten signature of Samuel W. Bodman in cursive script.

FOR THE MINISTRY OF SCIENCE AND
TECHNOLOGY OF THE PEOPLE'S
REPUBLIC OF CHINA:

Handwritten signature in Chinese characters, likely representing the Ministry of Science and Technology of the People's Republic of China.

ANNEX II
TO THE PROTOCOL
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF SCIENCE AND TECHNOLOGY OF THE
PEOPLE'S REPUBLIC OF CHINA
FOR
COOPERATION IN THE FIELDS OF ENERGY EFFICIENCY AND
RENEWABLE ENERGY TECHNOLOGY DEVELOPMENT
AND UTILIZATION

FOR
ELECTRIC, HYBRID-ELECTRIC, FUEL CELL, AND ALTERNATIVE
FUEL VEHICLE DEVELOPMENT

The Department of Energy of the United States of America (USDOE) and the Ministry of Science and Technology (MOST) of the People's Republic of China (PRC), hereinafter referred to as the "Parties":

Noting the Agreement between the Government of the United States of America and the Government of the People's Republic of China on Cooperation in Science and Technology signed at Washington on January 31, 1979, as amended and extended, hereinafter referred to as the "Umbrella Agreement;"

Noting that under the Umbrella Agreement the Parties signed a Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization on December 15, 2006, hereinafter referred to as the "Protocol;"

Noting that Article 2 of the Protocol identifies a number of areas for potential cooperation in the field of energy conservation technology in transportation and technology for alternative automobile fuel; and that Article 6 of the Protocol provides that the USDOE and the MOST may invite other organizations to participate in cooperative activities under the Protocol; and

Desiring to establish cooperation between agencies in the United States and in the PRC for electric and hybrid-electric vehicle development, as well as other modes of electric transportation including hybrid, fuel cell and alternative fuel vehicles, and electric bicycles, in order to enhance the commercialization potential of such technology for the benefit of the Parties' countries;

Have agreed as follows:

ARTICLE I – OBJECTIVE

- A. This Annex is subject to the terms and conditions of the Umbrella Agreement and the Protocol. In the event of any conflict between the terms and conditions of the Umbrella Agreement or the Protocol and this Annex, the Umbrella Agreement and the Protocol shall govern.
- B. The objective of this Annex is to establish the framework for specific collaboration, including demonstrations as provided in Article IV, in order to promote large-scale deployment in the PRC and the United States of advanced automotive technologies for electric vehicles, including light duty passenger and business vehicles and electric buses, and other forms of electric, alternative fuel, and hybrid fuel cell transportation, into appropriate fleets and other applications. The collaboration will be undertaken with support from DOE and MOST, national laboratories, the automobile industries in the United States and the PRC, and U.S. and Chinese private industry organizations involved in energy efficient transportation.

ARTICLE II – AREAS FOR COOPERATION

Cooperation under this Annex may include, but is not limited to, the following areas:

- A. Technical Cooperation
 - 1. Advanced Batteries;
 - 2. Alternating Current Motor Control Systems;
 - 3. Fast Charging Batteries;
 - 4. Advanced Materials for Vehicle Systems; and
 - 5. Vehicle Charging and Fueling Infrastructure.

- B. Provision of Information

Electric, Hybrid Electric, Alternative Fuel and Fuel Cell Vehicles
Infrastructure Requirements: Building Codes and Safety Standards, Non-Financial and Regulatory Incentives, and Electricity Rates.

ARTICLE III – PARTICIPATING ORGANIZATIONS

- A. The principal organization responsible for conducting the cooperative activities under this Annex in the United States shall be the USDOE. The principal organization responsible for conducting the cooperative activities under this Annex in the PRC shall be the MOST.

- B. Each Party may invite other government agencies and organizations and private organizations in its country to participate in cooperative activities under this Annex at the participating organization's own expense and subject to such terms and conditions as the Parties may specify. For the USDOE, such participating organizations may include USDOE national laboratories.

ARTICLE IV – FORMS OF COOPERATION

Cooperative activities undertaken pursuant to this Annex may include, but are not limited to, the following:

- A. Exchange of Technical Information and Experiences and Collaborative Visits

The Parties will exchange technical information and experiences and arrange collaborative visits. These exchanges and visits may address research and development programs, technical and economic evaluation, maintenance and operational procedure, and facilities relating to electric, hybrid-electric, fuel cell and alternative fuel vehicle technology.

- B. Economic, Environment, and Policy Studies

The Parties will conduct specific economic and policy studies in order to enhance joint understanding of appropriate mechanisms and policies to promote rapid implementation of electric vehicles in an environmentally and economically acceptable manner. The Parties will explore the need for a joint environmental evaluation of such implementation and will develop and implement such an evaluation, as appropriate.

- C. Demonstrations

The Parties will explore the need for demonstrations in order to show the technical and economic feasibility of electric vehicle technologies in areas of cooperation set out in Article II of this Annex. USDOE may send to the PRC vehicles, instrumentation, equipment or spare parts for use in demonstrations carried out under this Annex, which vehicles and other items shall remain U.S. Government property unless otherwise agreed in writing. Such property may be donated to the Government of the PRC or exchanged for data or information owned by the Government of the PRC consistent with the laws and regulations of the Parties' countries. The MOST shall pay the cost of demonstration activities, transportation, and installation related to demonstrations.

Each Party shall exercise due care in carrying out demonstration projects under this Annex.

D. Professional Training

The Parties will explore the need to train PRC professionals in electric vehicle and supporting technologies.

ARTICLE V – MANAGEMENT

The Parties shall each designate one Project Coordinator. The Project Coordinators shall jointly plan the technical approach for accomplishing the objective of this Annex, and shall be responsible for the collaborative program, schedule, and coordination. The Project Coordinators will also make progress reports at Project Coordination Meetings to be held at mutually agreed sites, preferably annually.

ARTICLE VI – COSTS AND LEGAL PROVISIONS

Except when otherwise specifically agreed by the Parties in writing, all costs (including travel and lodging expenses) resulting from cooperation under this Annex shall be borne by the Party that incurs them. The implementation of this Annex is subject to the availability of appropriated funds and personnel, and to applicable laws and regulations of the countries of the Parties.

ARTICLE VII – INTELLECTUAL PROPERTY RIGHTS

Article 8 of the Protocol and Annex I of the Umbrella Agreement govern the dissemination, use and protection of information used or generated in the course of activities conducted under this Annex, and the allocation of intellectual property rights arising from this activity.

ARTICLE VIII – ENTRY INTO FORCE AND TERMINATION

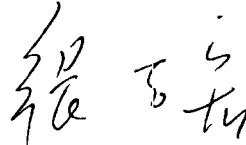
- A. This Annex shall enter into force upon signature by the Parties and remain in force for five (5) years or until termination of the Protocol, whichever occurs first. This Annex may be amended or extended by written agreement of the Parties, so long as the Protocol remains in force.
- B. At the discretion of either Party, this Annex may be terminated upon six (6) months advance notice in writing to the other Party.

SIGNED at Washington, DC, this 17th day of September, 2007, in duplicate, in the English and Chinese languages, each text being equally authentic.

FOR THE DEPARTMENT OF
ENERGY OF THE UNITED STATES
OF AMERICA:



FOR THE MINISTRY OF SCIENCE
AND TECHNOLOGY OF
THE PEOPLE'S REPUBLIC OF CHINA:



PROJECT ANNEX III
UNDER
IMPLEMENTING ARRANGEMENT
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF INDUSTRY AND ENERGY
OF THE KINGDOM OF SPAIN
ON COOPERATION IN RESEARCH ON RADIOLOGICAL EVALUATIONS

The Department of Energy of the United States of America (DOE) and the Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT), hereinafter the "Parties",

Acting in furtherance of Article 2.F. of the Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Industry and Energy of the Kingdom of Spain on Cooperation in Research of Radiological Evaluations of September 15, 1997 (the "Implementing Arrangement"),

Hereby agree as follows:

Section 1

- A. The Parties agree to cooperate in the conduct of activities set forth in Section 2 of this Project Annex.
- B. This Project Annex is subject to and governed by the Implementing Arrangement.

Section 2

Responsibilities of the Parties

CIEMAT will have primary responsibility for the conduct of activities under this Project Annex. DOE will provide scientific and technical collaboration and support to CIEMAT, as appropriate, in the following:

- A. Scientific collaboration and exchanges of technical expertise and data with particular focus on the validation of the radiological health environment and health assessments;
- B. Continuation of environmental surveillance involving continuous monitoring and cross validation checks of plutonium and americium levels in soil, air, water, vegetation and local animals, with special emphasis to be placed on determining the risks associated with resuspension and the reassessment of the presence of plutonium and americium;



- C. Continuation of assessment of internal exposure involving bioassay of plutonium and americium;
- D. Continuation of the periodic medical surveillance of the population of Palomares;
- E. Continuation of cooperation to complete a 3-dimensional radiological survey and final monitoring of affected areas at, and near, the Palomares impact zones identified as Impact Zones 2 and 3, as well as new Zone 6. The estimated time to execute the 3-D radiological survey is approximately 2 years.

Section 3

A. Funding and Budget

The Parties intend to share the costs of cooperative activities under this Project Annex, which costs are expected to be mainly of personnel and equipment. In 2007, DOE has already paid to CIEMAT USD 383,000 for the work performed during 2006, and according to Project Annex II under the Implementing Arrangement. For this Project Annex, DOE intends to transfer to CIEMAT USD 750,000 for 2007 and USD 850,000 for 2008, to be paid in DOE Fiscal Years 2008 and 2009, following the execution of the planned work.

B. Progress Reports and Follow-up

1. Preparation of a progress report, to be submitted by CIEMAT to the Parties' designated representatives, every 6 months starting from the entry into force of this Project Annex. CIEMAT will also prepare a final summary report of the 3-dimensional radiological survey.
2. If follow-up cleanup activity is determined to be necessary, CIEMAT will prepare the recommendations with the goal of a complete and final cleanup of the area, both surface and underground.
3. Six months before completion of the work cited in Section 2E of this Project Annex, DOE will assist CIEMAT to contact appropriate representatives of the United States Department of Defense concerning those recommendations.

Section 4

The Parties' principal representatives for the collaborative activities conducted under this Project Annex are: for DOE, the Director of Health and Safety; for CIEMAT, the Director(a), Departamento de Medio Ambiente.

Section 5

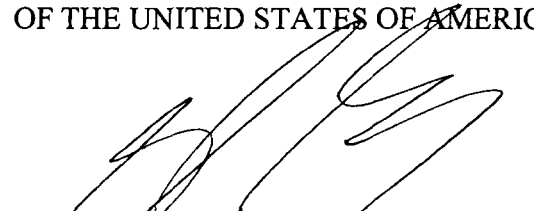
This Project Annex supersedes and replaces Project Annex I of September 15, 1997, and Project Annex II under Implementing Arrangement between the Department of Energy of the United States of America and the Ministry of Industry and Energy of the Kingdom of Spain on Cooperation in Research on Radiological Evaluations of March 9, 2006.

Section 6

- A. This Project Annex shall enter into force upon signature and, provided the Implementing Arrangement remains in force, shall remain in force until September 30, 2009, unless terminated earlier in accordance with paragraph B of this section 6.
- B. Either Party may terminate this Project Annex by providing 90 days written notice to the other Party.

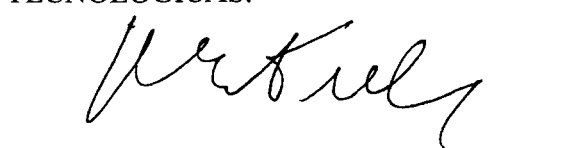
DONE at Madrid, this 10th day of September 2007, in duplicate, in the English and Spanish languages, both texts being equally authentic.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:



Glenn S. Podonsky
Chief Health, Safety and Security Officer
Office of Health, Safety and Security

FOR THE CENTRO DE INVESTIGACIONES
ENERGÉTICAS MEDIOAMBIENTALES Y
TECNOLÓGICAS:



Miguel Ángel Quintanilla
President

**AGREEMENT
BETWEEN
THE JAPAN ATOMIC ENERGY AGENCY
AND
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
FOR
COOPERATION IN RESEARCH AND DEVELOPMENT IN
NUCLEAR SCIENCE AND ENERGY**

The Japan Atomic Energy Agency (JAEA) and the Department of Energy of the United States of America (DOE), hereinafter collectively called the "Parties",

Noting that the JAEA is the successor to both the Japan Nuclear Cycle Development Institute and the Japan Atomic Energy Research Institute;

Noting further

the Agreement between the Department of Energy of the United States of America and the Japan Nuclear Cycle Development Institute in the Field of Radioactive Waste Management signed March 19, 2003 (hereinafter the "2003 Agreement"),

the Agreement between the Department of Energy of the United States of America and the Japan Nuclear Cycle Development Institute in the Field of Nuclear Technologies signed August 22, 2000, and

the Agreement between the Department of Energy of the United States of America and the Japan Atomic Energy Research Institute in the Field of Nuclear Research and Development signed July 17, 1995, and

Wishing to continue the long-term and productive cooperation among DOE and JAEA's predecessors in energy-related areas,

Hereby agree as follows:

**Article 1
Objective**

- 1.1 Cooperation between the Parties shall be aimed at advancing progress towards a more secure and efficient energy future, a cleaner global environment and improved scientific knowledge and tools to achieve advances in nuclear science and energy research and development for peaceful purposes. Cooperation under this Agreement may include research; development; testing and evaluation of technology, equipment, and procedures; and exchange of information in order to advance these nuclear science and energy objectives.

- 1.2 Cooperation between the Parties shall be on the basis of mutual benefit, equality, and reciprocity.

Article 2

Areas of Cooperation

The areas of cooperation under this Agreement may encompass, but are not limited to:

- (i) Advanced nuclear technology;
- (ii) Quantum beam technology;
- (iii) Radioactive waste management;
- (iv) Fusion energy research;
- (v) Other areas of nuclear science and energy-related research and development as may be mutually agreed in writing by the Parties.

Article 3

Methods of Cooperation

- 3.1 Cooperation in accordance with this Agreement may include, but is not limited to, the following:
- 3.1.1 Exchange of scientists, engineers and other specialists, including those from industry and other non-government sectors for participation in energy-related research, development, analysis, design and experimental activities conducted in research centers, laboratories, engineering offices, and other facilities and enterprises of the Parties or their designated representatives;
 - 3.1.2 Exchange or loan of samples, materials, instruments and components for testing;
 - 3.1.3. Exchange of unclassified scientific and technical information, including results and methods of research and development;
 - 3.1.4 Joint research activities in which the Parties agree to share the work and/or costs. Each such joint research activity shall be the subject of a written Project Annex as described in Article 4;
 - 3.1.5 Organization of seminars, workshops, and other meetings on agreed topics;
 - 3.1.6 Visits by a Party's specialist teams or individuals to the facilities of the other Party;

- 3.1.7 The use by one Party of the facilities owned or operated by the other Party. Such use of facilities shall be the subject of a separate written agreement between the Parties.
- 3.2 Other specific forms of cooperation may be added by agreement of the Parties.

Article 4

Project Annexes

Cooperative activities under this Agreement may be undertaken by the Parties or, as appropriate, laboratories or contractors of the Parties. The Parties may designate non-governmental scientific and technological research institutions within their respective countries to carry out the joint projects. Each cooperative activity that may involve the sharing of costs or that may give rise to intellectual property shall be described in writing in a Project Annex, which shall be subject to approval by the Permanent Coordinating Group (as provided for in Article 5). Such Project Annexes shall include detailed provisions for carrying out the specified forms of cooperation, including such matters as technical scope, exchange of business-confidential information, management, total costs, cost sharing and schedule. Each Project Annex shall be subject to and shall refer to this Agreement.

Article 5

Management

- 5.1 The Parties hereby establish a Permanent Coordinating Group (PCG) to supervise the implementation of this Agreement. Decisions of the PCG shall be made by consensus of the Parties.
- 5.2 Each Party shall designate a Principal Coordinator to supervise the implementation of this Agreement. Technical management of the cooperation shall be carried out by project leaders designated by the Principal Coordinators. Project leaders shall be responsible for the working contacts between the Parties in their respective areas of cooperation. The Principal Coordinators shall agree on specific details of cooperation in the technical areas listed in Article 2 of this Agreement, within policy guidelines established by the PCG.
- 5.3 The PCG shall meet once each year, alternately in the United States and in Japan, or at such other times and places as agreed. At its meetings, the PCG shall evaluate the status of cooperation under this Agreement. This evaluation shall include a review of the past year's activities and accomplishments and of the activities planned for the coming year, an assessment of the balances of exchanges within each technical field or group of related technical fields listed in Article 2, and consideration of measures designed to ensure that such exchanges are mutually beneficial to the Parties. In addition, the PCG shall consider and act on any major new proposals for collaboration. Principal Coordinators and other

advisers to the Parties may, at the discretion of the PCG, participate in these annual meetings.

Article 6

Exchange of Personnel

The following provisions shall apply concerning exchanges of personnel under this Agreement:

- 6.1 Whenever an exchange of personnel is contemplated, each Party shall endeavor to ensure the selection of qualified personnel with skills and competence necessary to conduct the activities planned under this Agreement. Each such exchange of personnel shall be agreed in advance by an exchange of letters between the Parties, referencing this Agreement and its pertinent intellectual property provisions.
- 6.2 Each Party shall be responsible for the salaries, insurance, and allowances to be paid to its staff or its contractors.
- 6.3 Each Party shall pay for the travel and living expenses of its staff or its contractors while on assignment to the host Party, unless otherwise agreed in writing.
- 6.4 The host Party shall help locate adequate accommodations for the other Party's staff or contractors and their families on a mutually agreeable reciprocal basis.
- 6.5 Each Party shall provide all necessary assistance to the assigned staff of the other Party or its contractors and their families as regards administrative formalities, such as assistance in making travel arrangements.
- 6.6 The staff and contractors of each Party shall conform to the general and specific rules of work and safety regulations in force at the host establishment.

Article 7

Exchange of Equipment

By mutual agreement, a Party may provide equipment to be utilized in a joint activity. In that event, the following provisions shall apply:

- 7.1 The sending Party shall supply, as early as possible, a detailed list of the equipment to be provided, together with the relevant specifications and appropriate technical and informational documentation related to use, maintenance, and repair of the equipment.

- 7.2 Title to the equipment and necessary spare parts supplied by the sending Party for use in joint activities shall remain with the sending Party, and the equipment shall be returned to the sending Party upon completion of the joint activity, unless otherwise agreed.
- 7.3 Equipment provided pursuant to this Agreement shall be brought into operation at the host establishment only by agreement of the Parties.
- 7.4 The host establishment shall provide the necessary premises and shelter for the equipment; utilities such as electric power, water and gas; and normally, shall provide materials to be tested, in accordance with all technical requirements, which shall be as mutually agreed upon.
- 7.5 Responsibility for expenses, safekeeping, and insurance during the transport of equipment from the original location in the country of the sending Party to the place of entry in the country of the receiving Party shall rest with the sending Party. If the sending Party elects to have the equipment returned, it shall be responsible for expenses, safekeeping, and insurance during the transport of the equipment from the original point of entry in the country of the receiving Party to the final destination in the country of the sending Party.
- 7.6 Responsibility for expenses, safekeeping, and insurance during the transport of equipment from the place of entry in the country of the receiving Party to the final destination in the country of the receiving Party shall rest with the receiving Party. If the sending Party elects to have the equipment returned, the receiving Party shall be responsible for expenses, safekeeping, and insurance during the transport of the equipment from the final destination in the country of the receiving Party to the original point of entry in the country of the receiving Party.
- 7.7 Responsibility for expenses, safekeeping, and insurance during the time period that the equipment is in use in the country of the receiving Party shall rest with the receiving Party unless otherwise agreed in writing.
- 7.8 Equipment provided pursuant to this Agreement for use in joint activities shall be considered to be scientific, not having a commercial character, and each Party shall make its best effort to obtain duty free entry.

Article 8

Samples and Materials

Unless otherwise agreed in writing, the following provisions shall apply to the transportation and use of samples and materials provided by one Party to the other Party under this Agreement:

- 8.1 All samples and materials provided by the sending Party to the receiving Party shall remain the property of the sending Party, and shall be returned to the sending Party on request.

- 8.2 Where one Party requests that the other Party provide a sample or material, the Party making the request shall bear all costs and expenses associated with the transportation of the sample or material from the location of the sending Party to its final destination.
- 8.3 Each Party shall promptly disclose to the other Party all information arising from the examination or testing of samples or materials exchanged under this Agreement. The Parties agree that business-confidential information (as defined in Section III of the Intellectual Property Rights Annex attached to this Agreement), which was developed prior to or outside the scope of this Agreement, shall remain business-confidential even though it is contained in the results of an examination or testing of samples or materials. Such information shall be identified as business-confidential by the Party asserting its business-confidential nature as soon as possible after disclosure of all information arising from the examination or testing is made to such Party and the other Party shall be immediately advised of that identification. All information identified as business-confidential shall be controlled as provided in Section III of the Intellectual Property Rights Annex.
- 8.4 A Party providing samples or materials to the other Party may also provide a partial or complete list of the types of information that may result from the examination or testing of such samples or materials and which are to be treated as business-confidential as defined in Section III of the Intellectual Property Rights Annex. All such business-confidential information is to be controlled as set out in Section III of that Annex.

Article 9

Transfer of Information and Equipment

- 9.1 The Parties may exchange, as agreed on a mutually beneficial basis, scientific and technical information, documents, and results of research and development of work carried out under this Agreement. Such information shall be limited to that which the Parties have the right to disclose, either in their possession or available to them, relating to the areas of cooperation described in Article 2.
- 9.2 Seminar proceedings and reports of joint activities carried out under this Agreement shall be published as joint publications, as agreed by the Parties.
- 9.3 The Parties agree that information developed and exchanged under this Agreement should be given wide distribution. Except as provided in Section III of the Intellectual Property Rights Annex to this Agreement, such information may be made available to the public by either Party through customary channels and in accordance with normal procedures of the Parties.

Article 10
Intellectual Property; Business-Confidential Information

The protection and allocation of intellectual property and the treatment of business-confidential information created or furnished in the course of cooperative activities under this Agreement shall be governed exclusively by the provisions of the Intellectual Property Rights Annex, which constitutes an integral part of this Agreement.

Article 11
General Provisions

- 11.1 Unless otherwise agreed in writing, all costs resulting from cooperation pursuant to this Agreement shall be the responsibility of the Party that incurs them.
- 11.2 The conduct of the activities provided for in this Agreement is subject to the availability of appropriated funds, personnel, and other resources.
- 11.3 Each Party shall conduct the activities provided for in this Agreement in accordance with the laws and regulations of its respective country.
- 11.4 Any dispute concerning the interpretation or application of this Agreement shall be settled by consultations between the Parties.
- 11.5 All information or equipment transmitted by one Party to the other Party under this Agreement and any related Project Annex shall be appropriate and accurate to the best knowledge and belief of the transmitting Party, but the transmitting Party does not warrant the suitability of the information or equipment transmitted for any particular use or application by the receiving Party or any third party. Information or equipment developed jointly by the Parties shall be appropriate and accurate to the best knowledge and belief of both Parties. Neither Party warrants the accuracy of the jointly developed information or the appropriateness of equipment, nor its suitability for any particular use or application by either Party or by any third party.
- 11.6 This Agreement supersedes the 2003 Agreement.

Article 12
Duration, Amendment and Termination

- 12.1 This Agreement shall enter into force upon signature by the Parties. Subject to Article 12.3, it shall remain in force for 5 years, and be automatically renewed for further 5-year periods unless either Party notifies the other in writing three months prior to the expiration of the first 5-year period or a succeeding 5-year period of its intent to terminate the Agreement.

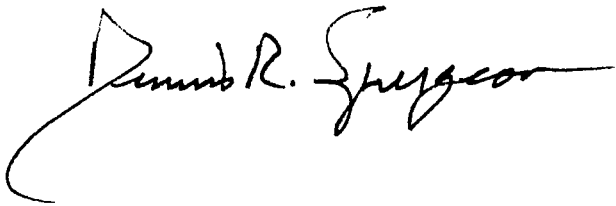
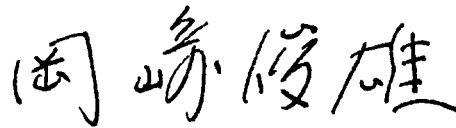
12.2 This Agreement may be amended by written agreement of the Parties.

12.3 This Agreement may be terminated at any time at the discretion of either Party upon three months written notice to the other Party. All ongoing joint activities, projects and experiments not completed at the expiration or termination of this Agreement may be continued until their completion under the terms of this Agreement.

DONE at Washington this fourth day of April, 2007, in duplicate.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:

FOR THE JAPAN ATOMIC ENERGY
AGENCY:

Handwritten signature of Dennis R. Spurgeon in cursive script.Handwritten signature of Tetsuo Fujita in Japanese calligraphy (Fujita Tetsuo).

Annex on Intellectual Property Rights

Pursuant to Article 10 of this Agreement:

The Parties shall ensure adequate and effective protection of intellectual property created or furnished under this Agreement and relevant Project Annexes. The Parties agree to notify one another in a timely fashion of any inventions or copyrighted works arising under this Agreement and to seek protection for such intellectual property in a timely fashion. Rights to such intellectual property shall be allocated as provided in this Annex.

I. Scope

- A. This Annex is applicable to all cooperative activities undertaken by the Parties or by the relevant entities (hereafter “cooperative entities”) pursuant to this Agreement, except as otherwise specifically agreed by the Parties or their cooperative entities.
- B. For purposes of this Agreement, “intellectual property” shall have the meaning found in Article 2 of the Convention Establishing the World Intellectual Property Organization, done at Stockholm, July 14, 1967.
- C. This Annex addresses the allocation of rights, interests and royalties between the Parties. Each Party shall ensure that the other Party can obtain the rights to intellectual property allocated in accordance with this Annex. The allocation between a Party and participants on behalf of this Party in cooperative activities, which shall be determined by the laws and practices of the Party’s country, shall not be altered or prejudiced by application of this Annex.
- D. Disputes concerning intellectual property arising under this Agreement should be resolved through discussions between the concerned participating institutions, or, if necessary, the Parties or their designees. Upon mutual agreement of the Parties, a dispute shall be submitted to an arbitral tribunal for binding arbitration in accordance with the applicable rules of international law. Unless the Parties or their designees agree otherwise in writing, the arbitration rules of UNCITRAL shall govern.
- E. Termination or expiration of this Agreement shall not affect the rights or obligations under this Annex.

II. Allocation of Rights

- A. Each Party, subject to the restrictions of Article III. of this Annex, shall be entitled to a non-exclusive, irrevocable, royalty-free license in all countries to translate, reproduce, and publicly distribute scientific and technical journal articles, and publicly available reports and books directly arising from cooperation under this Agreement. All publicly distributed copies of a copyrighted work prepared under this provision shall indicate

the names of the authors of the work unless an author explicitly declines to be named. Each Party or its cooperative entities shall have the right to review a translation prior to public distribution.

B. Rights to all forms of intellectual property, other than those rights described in paragraph II.A, above, shall be allocated as follows:

(1) Visiting researchers, for example, scientists visiting primarily in furtherance of their education, shall receive intellectual property rights under the policies of the host institution, unless a specific agreement is or has been signed between the host and forwarding institutions. In addition, each visiting researcher named as an inventor shall be entitled to treatment as a national of the host country with regard to awards, bonuses, benefits, or any other rewards in accordance with the policies of the host institution.

(2) (a) For intellectual property created during joint research, the Parties or their cooperative entities shall jointly develop a technology management plan either prior to the start of their cooperation, for example, in research areas likely to lead rapidly to industrial applications, or within a reasonable time from the time a Party becomes aware of the creation of intellectual property. The technology management plan shall consider the relative contributions of the Parties and their cooperative entities, the benefits of exclusive or non-exclusive licensing by territory or for field of use, requirements imposed by the domestic laws of the Parties' countries, and other factors deemed appropriate. If needed, the technology management plan shall be jointly modified or completed in a timely fashion, subject to the approval of both Parties or their cooperative entities.

(b) If the Parties or their cooperative entities cannot reach agreement on a joint technology management plan within a reasonable time not to exceed six months from the time a Party becomes aware of the creation of the intellectual property in question, each Party may designate one co-exclusive licensee to have world-wide rights to said intellectual property. Each Party shall notify the other two months prior to making a designation under this paragraph. When both Parties (or their licensees) exploit the intellectual property in a country, they shall share equally the reasonable cost of intellectual property protection in that country.

(c) A specific program of research will be regarded as joint research for purposes of allocating rights to intellectual property only when it is designated as such in the relevant Project Annex. Otherwise, the allocation of rights to intellectual property will be in accordance with paragraph II-B/1.

(d) In the event that either Party believes that a particular joint research project under this Agreement will lead, or has led, to the creation or furnishing of intellectual property of a type not protected by the applicable laws of one of the Parties' countries, the Parties shall immediately hold discussions to determine the allocation of rights to the said intellectual property; the joint activities in question will be suspended during the discussions, unless otherwise agreed by the Parties thereto. If no agreement can be reached within a three month period from the date of the request for discussions, the Parties shall cease the cooperation in the project in question. Notwithstanding paragraphs II-B/2(a) and (b), rights to any intellectual property which has been created will be resolved in accordance with the provisions of Article I-D.

III. Business-Confidential Information

In the event that information identified in a timely fashion as business-confidential is furnished or created under this Agreement, each Party and its cooperative entities shall protect such information in accordance with applicable laws, regulations, and administrative practices. Information may be identified as "business-confidential" if a person having the information may derive an economic benefit from it or may obtain a competitive advantage over those who do not have it, the information is not generally known or publicly available from other sources, and the owner has not previously made the information available without imposing in a timely manner an obligation to keep it confidential.

Without prior written consent, neither of the Parties shall disclose any business-confidential information provided by the other Party except to appropriate employees and government personnel. If expressly agreed between the Parties, business-confidential information may be disclosed to prime and subcontractors. Such disclosure shall be for use only within the scope of their contracts with the Parties relating to cooperation under the Agreement. The Parties shall impose, or shall have imposed, an obligation on those receiving such information to keep it confidential. If one of the Parties becomes aware that, under the laws or regulations of its country, it will be, or may reasonably be expected to become, unable to meet the non-disclosure provisions, it shall immediately inform the other Party. The Parties shall thereafter consult to define an appropriate course of action.

TECHNICAL COOPERATION AGREEMENT
BETWEEN
THE UNITED STATES OF AMERICA
AND
THE KINGDOM OF SAUDI ARABIA

In recognition of the good relations existing between the Kingdom of Saudi Arabia and the United States of America (the Parties), and of the mutual desire to further this relationship,

And desirous of facilitating the transfer of technical knowledge, advice, skills and resources from United States to the Kingdom of Saudi Arabia in the areas of critical infrastructure protection and public security, including border protection, civil defense capabilities, and coast guard and maritime capabilities,

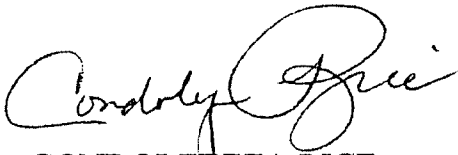
The Parties agree that:

1. The United States will make available for sale to the Saudi Arabian Ministry of Interior (MOI), for the purpose of assisting the Kingdom in the development of its capacity in the areas of critical infrastructure protection and public security, including border protection, civil defense capabilities, and coast guard and maritime capabilities, articles and services, including technical assistance as provided for in subsequent project-specific agreements between the Kingdom of Saudi Arabia and the United States. Such technical assistance may include provision of advice, training and equipment and other resources. The United States will provide the MOI with technical assistance directly or through U.S. Government contractors, or will facilitate the procurement by the Kingdom of Saudi Arabia of such knowledge, skills and resources from private U.S. organizations.
2. All U.S. assistance upon the advance of funds by the Kingdom of Saudi Arabia to the United States under this agreement will be done pursuant to subsequent project-specific agreements. The Kingdom of Saudi Arabia will pay all costs for services performed, equipment provided and expenses incurred by the United States under these project-specific agreements. The United States will pay for all costs of U.S. Government direct-hire employees assigned to the Kingdom of Saudi Arabia to perform services under this Agreement.
3. The Kingdom of Saudi Arabia will establish a dollar disbursement account in the United States Treasury. Any funds required by the United States for agreed-upon projects will be deposited by the Kingdom of Saudi Arabia in the account in such amounts and at such times as are mutually agreed, and the

- c. The first formal meeting of the Commission will take place in Saudi Arabia, at a mutually agreed-upon time. The two sides will strive to meet thereafter on a semi-annual basis, with one meeting in Riyadh and one meeting in Washington, D.C.
- d. The Joint Working Group on Critical Energy Infrastructure Protection will continue its ongoing efforts, pursuant to the December 7, 2006, Memorandum of Understanding between the United States and the Kingdom of Saudi Arabia. However, it will become a part of the Commission.
7. The Kingdom of Saudi Arabia agrees that no claim will be brought by Saudi Arabia against the United States or its employees or contractors that may arise as a result of the articles or services, including technical services furnished under this Agreement or under subsequent agreements for agreed-upon projects under this Agreement, and further agrees to hold the United States harmless against any and all claims that may arise as a result of the articles or services, including technical services furnished under this Agreement.
8. Assistance provided by the United States under this Agreement will be subject to U.S. law and regulations.
9. The duration of this Agreement will be five years, subject to revision or extension, as mutually agreed. This Agreement enters into force upon signature of the Parties. This Agreement may be terminated at any time by either Party with ninety days' advance written notice.

Signed at Riyadh on the 16th day of May, 2008, in duplicate, in the English and Arabic languages, both texts being equally authentic.

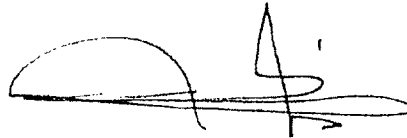
FOR THE GOVERNMENT OF
THE UNITED STATES
OF AMERICA



CONDOLEEZZA RICE

Secretary of State

FOR THE GOVERNMENT OF
THE KINGDOM OF
SAUDI ARABIA



NAYIF BIN ABDULAZIZ
AL-SAUD

Minister of Interior

AGREEMENT TO EXTEND
THE PROTOCOL
FOR COOPERATION IN THE FIELD OF FOSSIL ENERGY
TECHNOLOGY DEVELOPMENT AND UTILIZATION
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF SCIENCE AND TECHNOLOGY OF THE
PEOPLE'S REPUBLIC OF CHINA

The Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China (hereinafter referred to as "the Parties");

Noting the Protocol for Cooperation in the Field of Fossil Energy Technology Development and Utilization between the Department of Energy of the United States of America and the Ministry of Science and Technology of the People's Republic of China of April 20, 2000 (hereinafter referred to as "the Protocol");

Desiring to continue to cooperate in the field of fossil energy technology development and utilization for their mutual benefit; and

Acting pursuant to Paragraph B of Article 15 of the Protocol;

HAVE AGREED AS FOLLOWS:

1. The Protocol is hereby extended for a five-year period from April 20, 2005, until April 20, 2010.

DONE at Beijing, this 5th day of April, 2005, in duplicate, in the English and Chinese languages, each text being equally authentic.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF
AMERICA:



FOR THE MINISTRY OF SCIENCE AND
TECHNOLOGY OF THE PEOPLE'S REPUBLIC
OF CHINA:



JOINT STATEMENT OF INTENT BY
THE DEPARTMENT OF ENERGY OF THE UNITED
STATES OF AMERICA

AND

THE CUSTOMS GENERAL ADMINISTRATION, THE
GENERAL ADMINISTRATION OF QUALITY
SUPERVISION, INSPECTION AND QUARANTINE OF
THE PEOPLE'S REPUBLIC OF CHINA CONCERNING
EXPLORATION OF COOPERATION IN NUCLEAR AND
OTHER RADIOACTIVE MATERIAL DETECTION

The Department of Energy of the United States of America and the Customs General Administration of the People's Republic of China, the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China, collectively herein the "Signatories",

Recognizing the increasing threats to global security posed by terrorists' attempts to acquire nuclear and radiological weapons of mass destruction;

Being convinced of the need to detect, deter, and where necessary, to prevent terrorist attempts to smuggle nuclear or radiological weapons and radioactive materials across international borders, to disrupt global trade or to make use of commercial shipping to further terrorist schemes;

Recognizing the high volume of trade between seaports in the

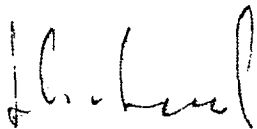
People's Republic of China and the United States, and the role of Chinese ports as intermodal transport hubs for cargo originating in many countries;

State their intention to explore future cooperation with respect to:

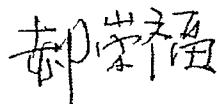
1. Safeguarding global maritime trade by enhancing, through modern technological means, the monitoring at major Chinese ports of high-risk containers that pose a potential terrorist threat, to ensure their in-transit security;
2. Engaging in cooperation to foster the Signatories' shared desire to combat illicit trafficking in nuclear and other radioactive material by terrorists and others.

Signed at this day of September 2, 2005, in duplicate, in the English and Chinese languages.

THE
DEPARTMENT
OF ENERGY OF
THE UNITED
STATES OF
AMERICA



THE CUSTOMS
GENERAL
ADMINISTRATION
OF THE PEOPLE'S
REPUBLIC OF
CHINA



THE GENERAL
ADMINISTRATION OF
QUALITY SUPERVISION,
INSPECTION AND
QUARANTINE OF THE
PEOPLE'S REPUBLIC OF
CHINA



MEMORANDUM OF UNDERSTANDING AMONG THE GENERAL ADMINISTRATION OF
CUSTOMS, THE GENERAL ADMINISTRATION OF QUALITY SUPERVISION, INSPECTION,
AND QUARANTINE OF THE PEOPLE'S REPUBLIC OF CHINA
AND
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
CONCERNING
COOPERATION TO PREVENT THE ILLICIT TRAFFICKING
IN NUCLEAR AND OTHER RADIOACTIVE MATERIAL

The General Administration of Customs (GACC) of the People's Republic of China, the General Administration of Quality Supervision, Inspection, and Quarantine (AQSIQ) of the People's Republic of China (PRC), and the United States of America Department of Energy (DOE), hereinafter referred to collectively as the "Participants",

Desiring to cooperate to prevent the illicit trafficking in nuclear and other radioactive material through technical and methodological cooperation, including the improvement of systems for the detection and identification of these materials at jointly determined seaports of the PRC;

Recognizing the increasing threats to global security posed by terrorists' attempts to acquire nuclear and other weapons of mass destruction;

Being convinced of the need to detect, deter, and prevent the illicit trafficking in nuclear and other radioactive material, including terrorist attempts to disrupt global trade through or from international seaports or to make use of commercial shipping to further terrorist schemes;

Recognizing the high volume of trade between seaports in the PRC and the U.S. and the role of PRC seaports as international transport hubs for cargo originating in many countries;

Noting the Declaration of Principles Relating to Bilateral Customs Cooperation at Seaports to Enhance Security of Ocean-Going Containers between the General Administration of Customs of the People's Republic of China (GACC) and the United States Bureau of Customs and Border Protection (CBP) dated July 29, 2003, and

Emphasizing the principle of reciprocity and mutual benefits,

Have reached the following understanding:

I. SCOPE OF COOPERATION

1. The DOE, through its National Nuclear Security Administration, intends to provide the PRC Participants technical assistance funded by DOE in the form of equipment and materials, as well as training and services, for use at PRC seaports mutually determined by the Participants, for the purpose of detecting and preventing illicit trafficking in special nuclear material and other radioactive material.
2. For purposes of this Memorandum of Understanding (MOU), "special nuclear material" means plutonium, and uranium enriched to 20 percent or more in the isotope U-235. "Other radioactive material" includes, but is not limited to, radiological dispersal devices and radioactive sources suitable for use in radioactive dispersal devices. The Participants will mutually develop a written list of special nuclear material and other radioactive material.
3. DOE intends to provide the following technical assistance:
 - a. provision to the PRC Participants of detailed technical specifications, from publicly available open literature sources, of radiation detection equipment appropriate for customs control conditions at PRC seaports, said specifications to be used by the PRC Participants to manufacture the said equipment and spare parts therefore within the PRC;
 - b. support for installation at PRC seaports, mutually determined by the Participants, of the equipment identified in paragraph 3a: including testing, setup, and demonstration of the equipment as long as it meets the standards set by GACC, provided that DOE determines that the equipment manufactured by the PRC meets the technical specifications provided by DOE;
 - c. delivery of all necessary spare parts kits, test equipment and maintenance equipment to maintain equipment referred to in paragraph 3a;
 - d. support for maintenance of the equipment referred to in paragraph 3a;
 - e. training PRC Participants in detection of special nuclear material and other radioactive material, and in the proper use and maintenance of equipment referred to in paragraph 3a,

such training to be based on a training plan determined by the Participants; and

f. sharing with the PRC Participants of DOE's experience in providing technical assistance to other countries to prevent illicit trafficking in special nuclear material and other radioactive material, and DOE's best efforts to arrange visits by PRC representatives to facilities in those countries.

4. Upon reasonable request by DOE, representatives of DOE may make technical evaluations of the equipment supplied under this MOU, starting from the deployment date of the equipment, the content of, and procedure and arrangements for, the technical evaluations to be determined and written by the Participants.

5. The Participants intend to conduct technical workshops, site surveys, verification inspections, operational consultations and acceptance testing of equipment referred to in Section 1 paragraph 3a in accordance with a mutually developed written plan. Joint working groups of the Participants' staff members and their respective technical experts may be formed to exchange technical information and to make proposals on technical and training matters to ensure the effective implementation of this MOU.

6. The terms of any technical assistance provided under this MOU are expected to be set forth in contracts or other written arrangements between the United States and PRC Participants or their designated implementing agents.

7. The PRC Participants intend to ensure that equipment and materials provided under this MOU are afforded priority processing to allow prompt engineering approvals, and equipment and materials deliveries to their ultimate destination at designated seaports within the PRC.

II. PROVISION OF INFORMATION

The PRC Participants are expected to furnish DOE or its designated representatives present in the PRC, in a format and according to conditions to be determined and written by the Participants, with information on any detection or seizures of illicitly trafficked special nuclear material and of other radioactive material referred to in Section I, paragraph 2 made as a result of the use of the equipment and materials supplied under this MOU.

III. NON-TRANSFER, NON-DISCLOSURE

1. Information obtained by a Participant's Government as a result of the technical assessment and implementation of cooperation under this MOU should not be disclosed to a third government or other third party without the prior consent of the other Participants.

Transfer of information by a Participant's Government, as required under international agreements to which such Government is a party, is not regarded as such disclosure to third governments or other third parties. The fact of any such transfer of information to a third government or other third party should be promptly notified to the other Participants in writing.

2. Unless the written consent of DOE has first been obtained, the PRC Participants are not to transfer title to, or possession of, any equipment provided by DOE pursuant to this MOU.

IV. TAX AND CUSTOMS TREATMENT OF ASSISTANCE

The Participants understand that neither DOE nor its implementing agents are to pay any taxes, duties or other charges on equipment, materials, training or services provided under this MOU.

The necessary components and spare parts for the manufacturing of the equipment in PRC with DOE funding and technical support are to be exempted from duties and VAT in the process of import.

V. GENERAL PROVISION

The MOU represents a political commitment by the Participants and does not constitute a legally binding agreement. All activities of each Participant should be carried out in accordance with the laws and regulations of that Participant's Government and applicable agreements to which that Participant's Government is party.

VI. EFFECTIVE DATE AND DURATION

1. Implementation of this MOU may begin upon signature by all Participants. The MOU is effective for a period of three years. If any Participant wishes to end its cooperation under the MOU, it should endeavor to provide at least 90 days' advance written notice to the other Participants. However, if no notification in writing is given to the other Participants no later than 90 days before expiration of the MOU, then the MOU is to be in effect for another three years.
2. Withdrawal of United States DOE or both PRC Participants will constitute termination of the MOU.
3. The MOU may be modified in writing by the Participants' consent. Any such modifications may take effect upon signature by the Participants.
4. The Participants intend to implement the cooperative activities contemplated by this MOU based on mutual respect and cooperative spirit.

Signed in Beijing, 19th of November, 2005, in triplicate, in the English and Chinese languages.

FOR THE GENERAL
ADMINISTRATION OF
CUSTOMS OF THE
PEOPLE'S REPUBLIC OF
CHINA

FOR THE GENERAL
ADMINISTRATION
OF SUPERVISION,
INSPECTION, AND
QUARANTINE OF THE
PEOPLE'S REPUBLIC
CHINA

FOR THE DEPARTMENT
OF ENERGY OF THE UNITED
STATES OF AMERICA

郝崇福

范国珍



**TERMS OF REFERENCE
FOR
THE INTERNATIONAL PARTNERSHIP FOR ENERGY DEVELOPMENT IN
ISLAND NATIONS**

The undersigned national governments (collectively the “Participants”) set forth the following Terms of Reference (TOR) for the International Partnership for Energy Development in Island Nations (EDIN), a framework for international cooperation to advance the development and deployment of renewable energy and energy efficiency technologies in island nations or territories within their jurisdiction.

1. Purpose

The Participants intend to work together to increase the energy security of island nations or territories by promoting the dissemination of clean energy technologies, finance models, and best practice policies for Project Participants, while maximizing deployment within their own countries.

2. Definitions

For the purposes of these TOR:

- (a) “Participants” means national governments of countries that are islands or have inhabited islands within their jurisdiction, have signed these TOR, and meet the following criteria:
- The national government is a member of the Organisation for Economic Co-operation and Development (OECD);
 - The country has clean energy manufacturing facilities within its territory and/or has business entities that specialize in clean energy development;
 - The country has demonstrated interest in deploying renewable energy and energy efficiency technologies, as evidenced by laws and policies.
- (b) “Project Participants” means governments of island nations or territories that meet the following criteria:
- Have a demonstrated commitment to deploying renewable energy and energy efficiency technologies, as evidenced by laws, policies, and government leadership;
 - Have been approved by the Steering Committee to work with EDIN on a project basis.

- (c) "Clean energy" means renewable energy, energy efficiency, and grid integration and storage technologies.

3. Areas of Cooperative Activities

- (a) Participants intend to give priority to collaboration that can advance common goals in clean energy deployment in the areas of renewable energy, energy efficiency, and grid integration and storage technology deployment both within island territories of Participants' countries and in specific Project Participants that the Participants determine, in conjunction with the Project Participant(s), to work with.
- (b) The Participants intend to promote removal of policy and financial barriers to clean energy deployment through policy guidance and expertise in the area of clean energy investment and financing.

4. Forms of Cooperative Activities

Cooperative activities may take the following forms:

1. Fostering of research, demonstration, and deployment projects
2. Short-term visits and exchanges of experts
3. Trade missions and site visits
4. Organization of conferences, symposia, and workshops
5. Training of technical experts
6. Development of clean energy curricula for schools, universities, and trade institutions

5. Steering Committee

- (a) The Participants expect to establish a Steering Committee composed of an equal number of representatives from each Participant, to manage EDIN's cooperative activities.
- (b) Unless otherwise determined by its members, the Steering Committee should meet annually to decide which common goals should be given priority, review the progress of cooperative activities, and plan EDIN's future activities. The Steering Committee may establish groups of experts to discuss specific issues.
- (c) Determinations of the Steering Committee should be made by consensus.
- (d) Each Participant should designate a Coordinator to maintain contact among Participants between Steering Committee meetings.

- (e) The Steering Committee may invite national governments of island nations to join as Participants of EDIN, by signing the TOR. The Steering Committee may also invite governments of island nations or territories to participate in EDIN activities, at their own expense and under such terms and conditions as the Steering Committee may determine.

6. Funding and Legal Considerations

- (a) Cooperative activities under these TOR are subject to the availability of appropriated funds, resources, and personnel.
- (b) Each Participant should conduct the cooperative activities contemplated by these TOR in accordance with the applicable laws, regulations, and policies to which it is subject.
- (c) Each Participant is responsible for the costs it incurs in participating in cooperative activities under these TOR.

7. Commencement, Modification and Duration

- (a) Cooperation under these TOR may commence on the date of signature of at least three Participants.
- (b) A Participant that wishes to discontinue its participation in cooperative activities under these TOR should endeavour to give six months' written notice to the other Participants.
- (c) The TOR may be modified in writing by the Participants' mutual consent.
- (d) The Participants should review these TOR two years after they are signed, and revise them, if appropriate, to ensure that the objectives of EDIN are being met.

Terms of Reference for

**THE INTERNATIONAL PARTNERSHIP FOR
ENERGY DEVELOPMENT IN
ISLAND NATIONS**

AA Karsner

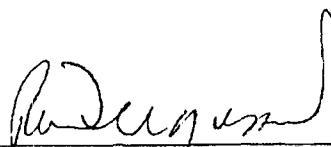
For the Government of the United States of America

Date:

7/24/88

Terms of Reference for

**THE INTERNATIONAL PARTNERSHIP FOR
ENERGY DEVELOPMENT IN
ISLAND NATIONS**



For the Government of New Zealand

Date: 24 July 2008

**Extension and Amendment of
Implementing Arrangement No. 1 under
the Agreement between the Department of Energy of the United States of America
and the Commissariat à L'Energie Atomique of France for Cooperation in
Advanced Nuclear Reactor Science and Technology**

The Department of Energy of the United States of America and the Commissariat à L'Energie Atomique of France, hereinafter the "Parties," hereby extend and amend Implementing Arrangement No. 1 under the Agreement between the Department of Energy of the United States of America and the Commissariat à L'Energie Atomique of France for Cooperation in Advanced Nuclear Reactor Science and Technology (the AGREEMENT) of July 9, 2001, as follows:

- I. Article VII is amended to read as follows:

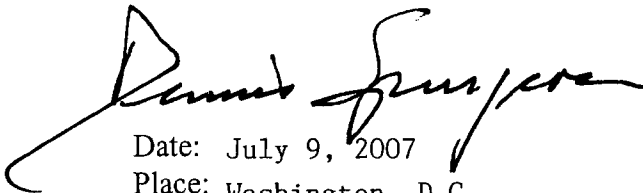
Article VII. Duration, Amendment and Termination

1. This Implementing Arrangement shall enter into force upon signature, remain in force for 5 years (subject to Article VII.3), and be automatically renewed for further 5-year periods, so long as the AGREEMENT remains in force.
2. This Implementing Arrangement may be amended by written agreement of the Parties.
3. This Implementing Arrangement may be terminated upon 3 months advance notification in writing by either Party to the other Party.
4. All joint efforts and experiments not completed at the expiration or termination of this Implementing Arrangement may be continued until their completion under the terms of this Implementing Arrangement.

II. This extension and amendment shall enter into force upon signature, with effect from July 9, 2006.

DONE in duplicate, in the English and French languages, each text being equally authentic.

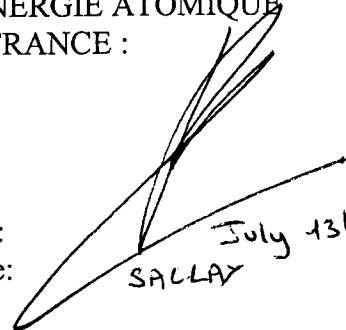
FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES
OF AMERICA:



Date: July 9, 2007
Place: Washington, D.C.

FOR THE COMMISSARIAT A
L'ENERGIE ATOMIQUE
OF FRANCE :

Date:
Place:



July 13th, 2007
SALLAY

**AGREEMENT BETWEEN THE
DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND THE
INSTITUT DE RADIOPROTECTION ET DE SURETE NUCLEAIRE
OF FRANCE**

FOR

**COOPERATION IN RESEARCH AND DEVELOPMENT IN THE
PHYSICAL PROTECTION OF NUCLEAR MATERIAL AND FACILITIES
AND IN NUCLEAR MATERIAL SAFEGUARDS TECHNOLOGIES**

The Department of Energy of the United States of America (DOE) and the Institut de Radioprotection et de Sûreté Nucléaire of France (IRSN), hereinafter collectively the "Parties",

Recalling the "Statement of Intent Between the Department of Energy of the United States of America and the Institut de Radioprotection et de Sûreté Nucléaire of France Concerning the Physical Protection of Nuclear Material and Facilities, and Nuclear Material Control and Accounting Measures" signed September 17, 2003; and

Desiring to cooperate on research, development, testing, and evaluation to improve physical protection of nuclear materials and facilities, and to enhance nonproliferation of nuclear weapons through effective systems of nuclear material control, accountancy, verification, and advanced containment/surveillance technologies for international safeguards, with the aim of preventing the theft, diversion or unauthorized use of nuclear materials, and limiting the impact of malevolent action;

Hereby agree as follows:

**Article 1
Objective**

- 1.1 The objective of this Agreement is to establish a framework for cooperation between DOE, through its National Nuclear Security Administration, and IRSN for research, development, testing, and evaluation to improve physical protection of nuclear materials and facilities, and to improve nuclear material control, accountancy, verification, and advanced containment/surveillance technologies for international safeguards.
- 1.2 Cooperation between the Parties shall be on the basis of mutual benefit, equality, and reciprocity.

Article 2

Areas of Cooperation

- 2.1 Classified information exchange is not permitted under this agreement.
- 2.2 The areas of cooperation under this Agreement may include, but are not limited to:
 - 2.2.1 Joint projects for the research, development, testing, and evaluation of non-destructive assay measurement technologies with spent or waste fuel, near real-time accounting technologies, design basis threat definitions and policies, spent fuel access control methodologies, intrusion detection methodologies, security assessment and review procedures, and access delay and barrier technologies;
 - 2.2.2 Exchange of abstracts, reports, evaluations, procedures, training, software, and equipment, or other information on programs for physical protection and nuclear safeguards.
- 2.3 Other areas of collaboration may be added by written agreement of the Parties.

Article 3

Forms of Cooperation

- 3.1 Cooperation in accordance with this Agreement may include, but is not limited to, the following forms:
 - 3.1.1 Exchange of scientific and technical information and results of research and development;
 - 3.1.2 Exchange of scientists, engineers and other specialists, including those from industry, for participation in nuclear safeguards-related research, development, analysis, design and experimental activities conducted in research centers, laboratories, engineering offices, and other facilities and enterprises of the Parties or their designated representatives;
 - 3.1.3 Exchange of samples, materials, instruments and components for testing;
 - 3.1.4 Organization of seminars, workshops, and other meetings on agreed topics;
 - 3.1.5 Visits by a Party's specialist teams or individuals to the facilities of the other Party;

- 3.1.6 The use by one Party of the facilities owned or operated by the other Party. Such use of facilities shall be the subject of a separate written agreement between the Parties;
 - 3.1.7 Cooperative programs and projects in which the Parties decide to share the work and costs. Such joint projects shall be the subject of a separate written agreement between the Parties.
- 3.2 Other specific forms of cooperation may be added by agreement of the Parties.

Article 4 **Project Action Sheets**

Cooperative activities under this Agreement may be undertaken by the Parties or, as appropriate, laboratories or contractors of the Parties. Each cooperative activity that may involve the sharing of costs or that may give rise to intellectual property shall be described in writing in a project Action Sheet, which shall be subject to approval by the Permanent Coordinating Group (as provided for in Article 5). Such Action Sheets shall include detailed provisions for carrying out the specified forms of cooperation, including such matters as technical scope, exchange of business-confidential information, management, total costs, cost sharing and schedule. Each Action Sheet shall be subject to and shall refer to this Agreement.

Article 5 **Management**

- 5.1 The Parties shall establish a Permanent Coordinating Group (PCG) to supervise the implementation of this Agreement. Decisions of the PCG shall be made on the basis of consensus.
- 5.2 Each Party shall designate a Principal Coordinator who shall be responsible for carrying out the day-to-day management of the cooperation under this Agreement. The Principal Coordinators shall agree on specific details of cooperation in the technical areas listed in Article 2 of this Agreement, within policy guidelines established by the PCG. The Principal Coordinators shall be responsible for working-level contacts between the Parties in the areas of cooperation.
- 5.3 The PCG shall meet once each year, alternately in the United States and in France, or at such other times and places as agreed. At its meetings, the PCG shall evaluate the status of cooperation under this Agreement. This evaluation shall include a review of the past year's activities and accomplishments and of the activities planned for the coming year, an assessment of the balances of exchanges within each technical field or group of related technical fields listed in Article 2, and consideration of measures designed to ensure that such exchanges are mutually beneficial to the Parties. In addition, the PCG shall consider and act

on any major new proposals for collaboration. Principal Coordinators and other advisers to the Parties may, at the discretion of the PCG, participate in these annual meetings.

Article 6

Exchange of Personnel

The following provisions shall apply concerning exchanges of personnel under this Agreement:

- 6.1 Whenever an exchange of personnel is contemplated, each Party shall endeavor to ensure the selection of qualified personnel with skills and competence necessary to conduct the activities planned under this Agreement. Each such exchange of personnel shall be agreed in advance by an exchange of letters between the Parties, referencing this Agreement and its pertinent intellectual property provisions.
- 6.2 Each Party shall be responsible for the salaries, insurance, and allowances to be paid to its staff or its contractors.
- 6.3 Each Party shall pay for the travel and living expenses of its staff or its contractors while on assignment to the host Party, unless otherwise agreed in writing.
- 6.4 Each Party shall help locate adequate accommodations for the other Party's staff or contractors and their families on a mutually acceptable, reciprocal basis.
- 6.5 Each Party shall provide all appropriate assistance to the assigned staff of the other Party or its contractors and their families as regards administrative formalities, such as assistance in making travel arrangements.
- 6.6 The staff and contractors of each Party shall conform to the general and specific rules of work and safety regulations in force at the host establishment.

Article 7

Exchange of Equipment

By mutual agreement, a Party may provide equipment to be utilized in a joint activity. In that event, the following provisions shall apply:

- 7.1 The sending Party shall supply, as early as possible, a detailed list of the equipment to be provided, together with the relevant specifications and appropriate technical and informational documentation related to use, maintenance, and repair of the equipment.

- 7.2 Title to the equipment and necessary spare parts supplied by the sending Party for use in joint activities shall remain with the sending Party, and the equipment shall be returned to the sending Party upon completion of the joint activity, unless otherwise agreed.
- 7.3 Equipment provided pursuant to this Agreement shall be brought into operation at the host establishment only by agreement of the Parties.
- 7.4 The host establishment shall provide the necessary premises and shelter for the equipment; utilities such as electric power, water and gas; and normally, shall provide materials to be tested, in accordance with all technical requirements, which shall be as mutually agreed upon.
- 7.5 Responsibility for expenses, safekeeping, and insurance during the transport of equipment from the original location in the country of the sending Party to the place of entry in the country of the receiving Party shall rest with the sending Party. If the sending Party elects to have the equipment returned, it shall be responsible for expenses, safekeeping, and insurance during the transport of the equipment from the original port of entry in the country of the receiving Party to the final destination in the country of the sending Party.
- 7.6 Responsibility for expenses, safekeeping, and insurance during the transport of equipment from the place of entry in the country of the receiving Party to the final destination in the country of the receiving Party shall rest with the receiving Party. If the sending Party elects to have the equipment returned, the receiving Party shall be responsible for expenses, safekeeping, and insurance during the transport of the equipment from the final destination in the country of the receiving Party to the original point of entry in the country of the receiving Party.
- 7.7 Responsibility for expenses, safekeeping, and insurance during the time period that the equipment is in use in the country of the receiving Party shall rest with the receiving Party unless otherwise agreed in writing.
- 7.8 Equipment provided pursuant to this Agreement for use in joint activities shall be considered to be scientific, not having a commercial character, and each Party shall make its best effort to obtain duty free entry.

Article 8

Samples and Materials

Unless otherwise agreed in writing, the following provisions shall apply to the transportation and use of samples and materials provided by one Party to the other Party under this Agreement:

- 8.1 All samples and materials provided by the sending Party to the receiving Party shall remain the property of the sending Party, and shall be returned to the sending Party on request.
- 8.2 Where one Party requests that the other Party provide a sample or material, the Party making the request shall bear all costs and expenses associated with the transportation of the sample or material from the location of the sending Party to its final destination.
- 8.3 Each Party shall promptly disclose to the other Party all information arising from the examination or testing of samples or materials exchanged under this Agreement. The Parties agree that business-confidential information (as defined in Section III of the Intellectual Property Rights Annex attached to this Agreement), which was developed prior to or outside the scope of this Agreement, shall remain business-confidential even though it is contained in the results of an examination or testing of samples or materials. Such information shall be identified as business-confidential by the Party asserting its business-confidential nature as soon as possible after disclosure of all information arising from the examination or testing is made to such Party and the other Party shall be immediately advised of that identification. All information identified as business-confidential shall be controlled as provided in Section III of the Intellectual Property Rights Annex.
- 8.4 It is further understood and agreed that a Party providing samples or materials to the other Party may also provide a partial or complete list of the types of information that may result from the examination or testing of such samples or materials and which are to be treated as business-confidential as defined in Section III of the Intellectual Property Rights Annex. All such business-confidential information is to be controlled as set out in Section III of that Annex.

Article 9

Transfer of Information and Equipment

- 9.1 The Parties may exchange, as agreed on a mutually beneficial basis, scientific and technical information, documents, and results of research and development of work carried out under this Agreement. Such information shall be limited to that which the Parties have the right to disclose, either in their possession or available to them, relating to the types of cooperation described in Article 2.
- 9.2 Seminar proceedings and reports of joint activities carried out under this Agreement shall be published as joint publications, as agreed by the Parties.
- 9.3 The Parties agree that information developed and exchanged under this Agreement should be given wide distribution. Except as provided in Section III of the Intellectual Property Rights Annex to this Agreement, such information

may be made available to the public by either Party through customary channels and in accordance with normal procedures of the Parties.

- 9.4 All information or equipment transmitted by one Party to the other Party under this Agreement and any related project Action Sheet shall be appropriate and accurate to the best knowledge and belief of the transmitting Party, but the transmitting Party does not warrant the suitability of the information or equipment transmitted for any particular use or application by the receiving Party or any third party. Information or equipment developed jointly by the Parties shall be appropriate and accurate to the best knowledge and belief of both Parties. Neither Party warrants the accuracy of the jointly developed information or the appropriateness of equipment, nor its suitability for any particular use or application by either Party or by any third party.

Article 10

Additional Organizations

- 10.1 The Parties may invite public and private organizations in their respective countries to participate, at those organizations' own expense and subject to such terms and conditions as the Parties may specify, in cooperative activities under this Agreement.
- 10.2 Unless otherwise agreed in writing, the Parties shall not grant such organizations access to information, equipment or materials provided by one Party to the other Party under this Agreement without the prior written consent of the transmitting Party.
- 10.3 Each Party shall take measures to ensure that such organizations will not gain unauthorized access to safeguards and security information, nuclear and radiological materials, or other sensitive information or material.

Article 11

Intellectual Property; Business-Confidential Information

The protection and allocation of intellectual property and the treatment of business-confidential information created or furnished in the course of cooperative activities under this Agreement shall be governed by the provisions of the Intellectual Property Rights Annex, which constitutes an integral part of this Agreement.

Article 12

General Provisions

- 12.1 Unless otherwise agreed in writing, all costs resulting from cooperation pursuant to this Agreement shall be the responsibility of the Party that incurs them.

- 12.2 The conduct of the activities provided for in this Agreement is subject to the availability of appropriated funds, personnel, and other resources.
- 12.3 Each Party shall conduct the activities provided for in this Agreement in accordance with the laws and regulations of its respective country.
- 12.4 Any dispute concerning the interpretation or application of this Agreement shall be settled by consultations between the Parties.

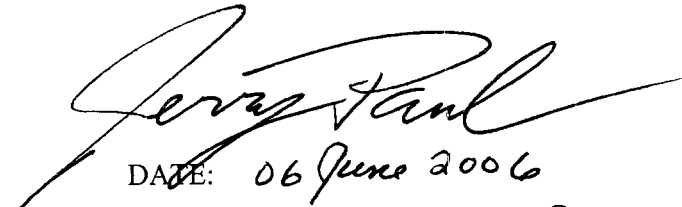
Article 13 Duration, Amendment and Termination

- 13.1 This Agreement shall enter into force upon signature, and (subject to Article 13.3), remain in force for 5 years, and be automatically renewed for further 5-year periods unless either Party notifies the other in writing three months prior to the expiration of the first 5-year period or a succeeding 5-year period of its intent to terminate the Agreement.
- 13.2 This Agreement may be amended by written agreement of the Parties.
- 13.3 This Agreement may be terminated at any time at the discretion of either Party upon 3 months written notice to the other Party. All ongoing joint activities, projects and experiments not completed at the expiration or termination of this Agreement may be continued until their completion under the terms of this Agreement.

DONE in duplicate.

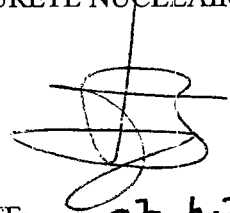

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:

FOR THE INSTITUT DE RADIOPROTECTION
ET DE SURETE NUCLEAIRE OF FRANCE:


DATE: 06 June 2006
PLACE: Washington DC

DATE:

PLACE


07 juillet 2006
clausat
Paris, le 20 juin 2006
Vu pour accord et transmission,
Pour le Ministre délégué à l'industrie
et par délégation
Le Haut fonctionnaire de défense


Emmanuel SARTORIUS

Annex on Intellectual Property Rights

Pursuant to Article 11 of this Agreement:

The Parties shall ensure adequate and effective protection of intellectual property created or furnished under this Agreement and relevant project Action Sheets. The Parties agree to notify one another in a timely fashion of any inventions or copyrighted works arising under this Agreement and to seek protection for such intellectual property in a timely fashion. Rights to such intellectual property shall be allocated as provided in this Annex.

I. Scope

- A. This Annex is applicable to all cooperative activities undertaken by the Parties or by the relevant entities (hereafter “cooperative entities”) pursuant to this Agreement, except as otherwise specifically agreed by the Parties or their cooperative entities.
- B. For purposes of this Agreement, “intellectual property” shall have the meaning found in Article 2 of the Convention Establishing the World Intellectual Property Organization, done at Stockholm, July 14, 1967.
- C. This Annex addresses the allocation of rights, interests and royalties between the Parties. Each Party shall ensure that the other Party can obtain the rights to intellectual property allocated in accordance with this Annex. The allocation between a Party and participants on behalf of this Party in cooperative activities, which shall be determined by the laws and practices of the Party’s country, shall not be altered or prejudiced by application of this Annex.
- D. Disputes concerning intellectual property arising under this Agreement should be resolved through discussions between the concerned participating institutions, or, if necessary, the Parties or their designees. Upon mutual agreement of the Parties, a dispute shall be submitted to an arbitral tribunal for binding arbitration in accordance with the applicable rules of international law. Unless the Parties or their designees agree otherwise in writing, the arbitration rules of UNCITRAL shall govern.
- E. Termination or expiration of this Agreement shall not affect the rights or obligations under this Annex.

II. Allocation of Rights

- A. Each Party, subject to the restrictions of Article III of this Annex, shall be entitled to a non-exclusive, irrevocable, royalty-free license in all countries to translate, reproduce, and publicly distribute scientific and technical journal articles, and publicly available reports/books directly arising from cooperation under this Agreement. All publicly distributed copies of a copyrighted work prepared under this provision shall indicate

the names of the authors of the work unless an author explicitly declines to be named. Each Party or its cooperative entities shall have the right to review a translation prior to public distribution.

- B. Rights to all forms of intellectual property, other than those rights described in paragraph II.A, above, shall be allocated as follows:
- (1) Visiting researchers, for example, scientists visiting primarily in furtherance of their education, shall receive intellectual property rights under the policies of the host institution, unless a specific agreement is or has been signed between the host and forwarding institutions. In addition, each visiting researcher named as an inventor shall be entitled to treatment as a national of the host country with regard to awards, bonuses, benefits, or any other rewards in accordance with the policies of the host institution.
 - (2)
 - (a) For intellectual property created during joint research, the Parties or their cooperative entities shall jointly develop a technology management plan either prior to the start of their cooperation, for example, in research areas likely to lead rapidly to industrial applications, or within a reasonable time from the time a Party becomes aware of the creation of intellectual property. The technology management plan shall consider the relative contributions of the Parties and their cooperative entities, the benefits of exclusive or non-exclusive licensing by territory or for field of use, requirements imposed by the Parties' domestic laws, and other factors deemed appropriate. If needed, the technology management plan shall be jointly modified or completed in a timely fashion, subject to the approval of both Parties or their cooperative entities.
 - (b) If the Parties or their cooperative entities cannot reach agreement on a joint technology management plan within a reasonable time not to exceed six months from the time a Party becomes aware of the creation of the intellectual property in question, each Party may designate one co-exclusive licensee to have world-wide rights to said intellectual property. Each Party shall notify the other two months prior to making a designation under this paragraph. When both Parties (or their licensees) exploit the intellectual property in a country, they shall share equally the reasonable cost of intellectual property protection in that country.
 - (c) A specific program of research will be regarded as joint research for purposes of allocating rights to intellectual property only when it is designated as such in the relevant Action Sheet. Otherwise, the allocation of rights to intellectual property will be in accordance with paragraph II-B/1.

(d) In the event that either Party believes that a particular joint research project under this Agreement will lead, or has led, to the creation or furnishing of intellectual property of a type not protected by the applicable laws of one of the Parties' countries, the Parties shall immediately hold discussions to determine the allocation of rights to the said intellectual property; the joint activities in question will be suspended during the discussions, unless otherwise agreed by the Parties thereto. If no agreement can be reached within a three month period from the date of the request for discussions, the Parties shall cease the cooperation in the project in question. Notwithstanding paragraphs II-B/2(a) and (b), rights to any intellectual property which has been created will be resolved in accordance with the provisions of Article I-D.

III. Business-Confidential Information

In the event that information identified in a timely fashion as business-confidential is furnished or created under this Agreement, each Party and its cooperative entities shall protect such information in accordance with applicable laws, regulations, and administrative practices. Information may be identified as "business-confidential" if a person having the information may derive an economic benefit from it or may obtain a competitive advantage over those who do not have it, the information is not generally known or publicly available from other sources, and the owner has not previously made the information available without imposing in a timely manner an obligation to keep it confidential.

Without prior written consent, neither of the Parties shall disclose any business-confidential information provided by the other Party except to appropriate employees and government personnel. If expressly agreed between the Parties, business-confidential information may be disclosed to prime and subcontractors. Such disclosure shall be for use only within the scope of their contracts with the Parties relating to cooperation under the Agreement. The Parties shall impose, or shall have imposed, an obligation on those receiving such information to keep it confidential. If one of the Parties becomes aware that, under the laws or regulations of its country, it will be, or may reasonably be expected to become unable to meet the non-disclosure provisions, it shall immediately inform the other Party. The Parties shall thereafter consult to define an appropriate course of action.

U.S. DOE, Sweden STEM-AB Volvo/Mack Trucks Program
on Advanced Vehicle Technology

Noting the "Implementing Arrangement between the Government of the United States of America and the Government of the Kingdom of Sweden on Cooperation on Research and Development, New Technologies, New Products, New Services, and Enhanced Resource Base for Renewable Energy", signed by the governments of the United States and Sweden of June 28, 2007.

Objective of the Program

It is intended that the program will address common technical interests of U.S. DOE, the Swedish Energy Agency and the Volvo Group, including the application of bio-fuels to heavy-duty diesel engines, advanced diesel engine-transmission system design and hybrid propulsion technology for commercial vehicles. The program will demonstrate the benefits of international cooperation between countries and companies with specific technical expertise and global reach – to insure a realistic pathway to commercialization.

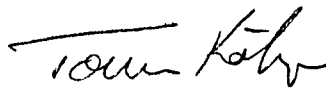
In support of the program, U.S. DOE, Swedish Energy Agency and Volvo Group intend to explore the possibility of providing the following:

- Analysis of the impact of different bio-fuels on diesel engines in an effort to increase efficiency and fuel economy, and reduce greenhouse gas emissions of new long haul trucks
- Advanced 'narrow-band' diesel engine and transmission system development
- Hybrid vehicle technology for heavy-duty engines, coupled with waste heat recovery.

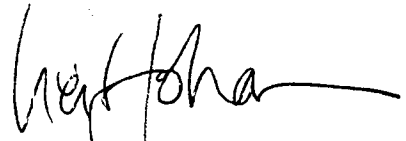
June 30, 2008



Alexander Karsner
Assistant Secretary
Energy Efficiency and
Renewable Energy
U.S. Dept. of Energy



Tomas Kåberger
Director General
Swedish Energy
Agency



Leif Johansson
Chief Executive Officer
Volvo Group

IMPLEMENTING ARRANGEMENT
CONCERNING IRRADIATION OF STRUCTURAL
MATERIAL SPECIMENS IN THE PHENIX REACTOR

Under the
Agreement between

The Department of Energy of the United States of America
and

The Commissariat à l'Energie Atomique of France
For Cooperation in Advanced Nuclear Reactor Science and Technology

The Department of Energy of the United States of America (DOE) and the Commissariat à l'Energie Atomique of France (CEA), referred to hereafter as the "Parties";

NOTING the Agreement between the Department of Energy of the United States of America and the Commissariat à l'Energie Atomique of France for Cooperation in Advanced Nuclear Reactor Science and Technology of September 18, 2000 (the "Agreement"), which includes advanced reactor materials irradiation development and testing as an area of cooperation between the Parties;

NOTING that the Parties have respectively developed research programs in the field of minor actinide transmutation and in particular in the accelerated driven systems,

NOTING that the CEA is operating the PHENIX experimental reactor particularly for the development of these research programs;

NOTING that the Parties desire to carry out an experimental irradiation project in the PHENIX experimental reactor to test various types of structural material specimens under selected conditions;

NOTING the Parties' determination to collaborate on a "MATRIX-SMI" program (SMI: Structural Material Irradiation) concerning the irradiation of various structural material specimens in the PHENIX reactor;

DO HEREBY AGREE AS FOLLOWS:

ARTICLE 1 – DEFINITIONS

For purposes of this Implementing Arrangement, the following definitions shall apply:

PROGRAM: the "MATRIX-SMI" program concerning the irradiation in the PHENIX experimental reactor of structural material specimens provided by both Parties as defined in the technical and financial appendix attached to this Implementing Arrangement as Appendix I and constituting an integral part hereof. The PROGRAM constitutes "joint research" within the meaning of section II-B-2 (C) of Annex I to the Agreement.

RESULTS: irradiated structural material specimens and analyses results pertaining to specimens arising from the PROGRAM as well as data pertaining to the PHENIX experimental reactor required for RESULTS interpretation calculations.

KNOWLEDGE: all know-how, data, specifications, software or any other type of information necessary to carry out the PROGRAM belonging to a Party prior to execution of the PROGRAM. A list of KNOWLEDGE is set forth in Appendix II attached to this Implementing Arrangement and constituting an integral part hereof.

ARTICLE 2 - PURPOSE

- 2.1 The purpose of this Implementing Arrangement is:
- to set down the terms and conditions according to which the Parties shall collaborate to carry out the PROGRAM, and

- to set down the rules governing the assignment of the RESULTS ownership and the conditions limiting the use of the same.
- 2.2 This Implementing Arrangement is subject to and governed by the Agreement. In case of any inconsistency between this Implementing Arrangement and the Agreement, the terms of the Agreement shall prevail.

ARTICLE 3 - PROGRAM FINANCIAL AND IN-KIND CONTRIBUTIONS

3.1 Contributions by the Parties, subject to the availability of appropriated funds, are:

3.1.1 DOE contributions shall consist of:

- The manufacture and inspection of all its structural material specimens
- The transportation of structural material specimens provided by the DOE from USA to the PHENIX Reactor
- A contribution in cash covering 50% of the following costs for:
 - the drafting of the files and drawings associated with the irradiation device,
 - the procurement, assemblies, controls of the irradiation device,
 - the CEA/PHENIX facility safety analyses induced by the introduction of the irradiation device,
 - the irradiations (irradiation monitoring and analysis file, neutrons),
 - the transportation of the irradiation device and irradiated specimens from the PHENIX Reactor to the PHENIX laboratories for device dismantling and specimens conditioning.
- The organization of transportation of the irradiated structural material specimens from PHENIX to the USA
- The post-irradiation examination of irradiated structural material samples provided by the DOE
- The written report on PIE and contribution to the final common CEA-DOE report

3.1.2 The CEA contribution shall consist of:

- The manufacture and inspection of all its structural material specimens
- The transportation of structural material samples provided by CEA-Saclay to the PHENIX Reactor
- A contribution in cash covering 50% of the following costs:
 - the drafting of the files and drawings associated with the irradiation device,
 - the procurement, assemblies, controls of the irradiation device,
 - the identification of both CEA and DOE specimens,
 - the CEA/PHENIX facility safety analyses induced by the introduction of the irradiation device,
 - the irradiations (irradiation monitoring and analysis file, neutrons),

- the transportation of the irradiation device and irradiated samples from the PHENIX Reactor to the PHENIX laboratories for device dismantling and specimens conditioning,
 - the irradiations (irradiation monitoring and analysis file, neutrons).
 - The organization of the transportation and transportation of irradiated structural material samples from the PHENIX reactor to Saclay
 - The PIE of irradiated structural material samples provided by the CEA
 - The written report on PIE and contribution to the final common CEA-DOE report
- 3.2 The provisional PROGRAM schedule, including the proposed contribution schedule, is described in detail in Appendix I.

ARTICLE 4 - FINANCIAL ACCOUNTING

- 4.1 The Parties estimate that the total cost of the five-year PROGRAM will be 1,411,120 Euros
- 4.1.1 Subject to Article 3.2, the DOE's contribution to the PROGRAM shall be 705,560 Euros and will be payable in U.S. dollars, in 5 annual installments, within 60 days after receipt of invoices issued by the CEA. Each annual invoice will be sent to the DOE on the anniversary date of the signing of this Implementing Arrangement and will include U.S. dollar to Euro conversion charges, at the rate given by "Banque de France" on such anniversary date, payable by the DOE.
- 4.1.2 The DOE intends to make an initial payment of 140 000 Euros within 60 days of receipt of invoice following this Implementing Arrangement being entered into force.
- 4.2 The DOE will pay its contribution to the PROGRAM in accordance with applicable DOE financial disbursement procedures, directed to the following payee:

CEA/CADARACHE
UG/TD
Bât.130
13108 Saint Paul-lez-Durance Cedex, France

Bank account :
BNP, 7 Place Vendôme, 75001 Paris, France
Bank code: 30004 – branch office code: 00601 – account n°: 00021518978 – Clé RIB: 21

- 4.3 The CEA shall maintain or cause to be maintained books of account, in accordance with generally accepted accounting practices, concerning the PROGRAM contributions and expenditures. On an annual basis for the duration of the PROGRAM, the CEA shall provide an annual financial report concerning the PROGRAM to the Steering Committee established under Article 5 of the Agreement.

- 4.4 At its sole cost, the DOE shall have the right to audit the account maintained under Article 4.3 of this Implementing Arrangement. Not more than one such audit will be performed in any U.S. fiscal year.

ARTICLE 5 - MANAGEMENT

5.1 Tracking

Each Party shall appoint a Technical Contact who will be entrusted with continual technical tracking of the PROGRAM including the exchanges of KNOWLEDGE. Each Technical Contact will report to his/her management concerning the progress of the PROGRAM.

5.2 Exchange of KNOWLEDGE

5.2.1 All KNOWLEDGE in the possession of the Parties necessary for the dimensioning of structural material specimens, the drafting of irradiation files (a technical file and a safety file), and the interpretation of PIE results, will be exchanged in the form of referenced technical documents.

5.2.2 Technical documents will be circulated in the English language.

5.3 Circulation of RESULTS

5.3.1 All RESULTS pertaining to the irradiated structural material specimens and analyses results arising from the PROGRAM will be circulated between the DOE and the CEA in the form of technical reports, written in the English language.

5.3.2 A synthesis Report covering the entire PROGRAM will be jointly drafted in the English language by the Parties upon completion of the PROGRAM.

5.3.3 Three technical meetings of specialists will be held as a minimum in order to ensure monitoring and the correct performance of the PROGRAM. The location of the said meetings shall be jointly agreed upon by the Technical Contacts. Minutes shall be drafted for all meetings.

ARTICLE 6 – PACKAGING-TRANSPORT- INSURANCE

Each Party shall take in charge the transportation of the structural material samples from its own installations to the PHENIX Reactor and the transportation of the irradiated structural material samples from the PHENIX Reactor to its own installations.

ARTICLE 7 - INTELLECTUAL PROPERTY

- 7.1 The protection and allocation of intellectual property arising from the activities conducted under this Implementing Arrangement shall be governed by Annex I to the Agreement.

- 7.2 A technology management plan within the meaning of section II.B. of Annex I to the Agreement is set forth in Appendix III attached to this Implementing Arrangement and constituting an integral part hereof.

ARTICLE 8 - LIABILITY

Without prejudice to Article 8 of the Agreement and in its capacity as the nuclear operator, the CEA shall bear the financial consequences of its liability as provided for by the law and regulations of France concerning France's implementation of the Paris Convention on Third Party Liability in the Field of Nuclear Energy of July 29, 1960, and its protocols.

ARTICLE 9 - SHUTDOWN OF THE PHENIX REACTOR

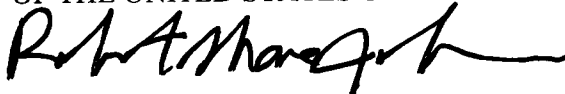
- 9.1 In the event of a decision to shut down the operation of the PHENIX Reactor, the CEA shall notify the DOE of the said decision as quickly as possible by registered letter.
- 9.2 In the event of the shutdown of the PHENIX Reactor, the Parties shall consult as soon as possible on the distribution of RESULTS generated and to be generated by the PROGRAM, the disposition of material used in the PROGRAM and the disposition of unspent financial contributions in the possession of the CEA.

ARTICLE 10 - TERM, AMENDMENT AND TERMINATION

- 10.1 This Implementing Arrangement shall enter into force upon signature and shall remain in force for 5 years, so long as the Agreement remains in force. It may be amended or extended by written agreement of the Parties providing the Agreement remains in force.
- 10.2 In the event of budgetary restrictions, significant restructuring and/or reorientation of a Party's programs, or in the event that access to a Party's facilities is limited for any reason whatsoever, or should a Party's performance of its undertakings under this Implementing Arrangement be prevented, limited or hindered by any other circumstance, the Parties shall meet as quickly as possible in order to agree jointly to a revision of the Implementing Arrangement or its prolongation in time (to ensure continuation of the PROGRAM and its completion), or the early termination of the Implementing Arrangement, under conditions that are fair to the Parties.
- 10.3 The provisions set down in Article 8 shall remain in effect notwithstanding the expiration or termination of this Implementing Arrangement.
- 10.4 Either Party may terminate this Implementing Arrangement by giving 6 months written notice to the other Party.
- 10.5 Any activities not completed upon expiration or termination of this Implementing Arrangement may be continued to completion under the terms of this Implementing Arrangement.

DONE in duplicate in the English language.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:



Date: 24 August 2005

Place: Washington DC

FOR THE COMMISSARIAT A L'ENERGIE
ATOMIQUE:



Date: 7 September 2005

Place: PARIS

APPENDIX I

TECHNICAL AND FINANCIAL APPENDIX

TECHNICAL APPENDIX:

Experimental grid

The irradiation experimental grid was commonly defined and approved by the PROGRAM participants (CEA and DOE) during the technical exchanges performed within the framework of the DOE/AFCI-CEA collaboration WP3 "materials and targets":

The experimental grid is given in the following table:

Materials' Compositions and Heat Treatments for Matrix-SMI

Material	Composition	Material Code	Heat treatment	Types of samples (tensile, TEM, CT) Number of samples split evenly over two irradiation positions	Material provided by
EP-823	83.9 Fe, 11.7 Cr, 1.1 Si, 0.73 Mo, 0.63 W, 0.65 Ni, 0.54 Mn, 0.34 V, 0.26 Nb and 0.17 C	A	Normalize at 1060C for 1 hr and AC Temper at 730C for 2 hrs and AC	Tensile (0.75 mm) specimens (12), TEM (16), Compact Tension (12)	Stuart Maloy
HT-9	Fe-11.95Cr-0.6Ni-0.2C-1Mo-0.6 Mn-0.4Si-0.3V	B	Normalize at 1040C for 30 min. and AC Temper at 760C for 1 hr and AC	Tensile (0.75 mm) specimens (12), TEM (16), Compact Tension (8)	Todd Allen
Mod 9Cr-1Mo	Fe-9.24Cr-0.47Mn-0.96Mo-0.16Ni-0.28Si-0.21V	C	Normalize at 1038C for 1 hr. and AC Temper at 760C for 1 hr and AC	Tensile (0.75 mm) specimens (12), TEM (16), Compact Tension (8)	Stuart Maloy
HCM12A (T122)	Fe-10.54Cr-1.89W-1.02Cu-0.64Mn-0.39Ni-0.30Mo-0.27Si-0.19V-0.11C-0.064Nb-0.012P-0.0032S-0.0005Al	D	Normalized at 1050°C and tempered at 770°C	Tensile (0.75 mm) specimens (12), TEM (16), Compact Tension (12)	Todd Allen
3Cr-W-V-Ta	Fe-3.0Cr-3.0W-0.41Mn-0.2V-0.16Si-0.1C-0.09Ta	UA	Normalized at 1050°C for 0.5 hr, AC Tempered at 750°C for 1 hr., AC	Tensile (0.75 mm) specimens (12), TEM (16), Compact Tension (12)	Roger Stoller/ Ron Klueh

3Cr-W-V	Fe-3.0Cr-3.0W-0.41Mn-0.2V-0.16 Si- 0.1C	UB	Normalized at 1050°C for 0.5 hr, AC Tempered at 750°C for 1 hr., AC	Tensile (0.75 mm) specimens (12), TEM (16), Compact Tension (12)	Roger Stoller/ Ron Klueh
NF 616	Fe-8.82Cr-1.87W-0.468Mo-0.45Mn- 0.194V-0.174Ni-0.102Si-0.109C	E	Normalizing 1070°C x 2 hr(Air-cooling) Tempering 770°C x 2 hr (Air-cooling)	Tensile (0.75 mm) specimens (12), TEM (16), Compact Tension (14)	Todd Allen
14WT	Fe-14Cr-3W-0.4Ti	UC	MA: Extruded at 850C + 50% hot roll at 600C +1050C/1h	Tensile (0.5 mm) specimens (12), TEM (16), Compact Tension (14)	Roger Stoller
12YWT--	Fe-12Cr-3W-0.4Ti-0.25 Y2O3	FA	MA: As-processed	Tensile (0.5 mm) specimens (12), TEM (16)	Roger Stoller
14YWT--	Fe-14Cr-3W-0.4Ti-0.25 Y2O3	K	MA: Extruded at 850C + 50% hot roll at 600C +1050C/1h	Tensile (0.5 mm) specimens (12), TEM (16), Compact Tension (14)	Roger Stoller
Inconel 800H	Fe-31.59Ni-20.42Cr-0.76Mn-0.57Ti-0.5Al-0.42Cu-0.13Si-0.069C-0.014P-0.001S	L	1176°C for 1 inch of thickness plus 2 hours.	Tensile (0.75 mm) specimens (12), TEM (16), Compact Tension (14)	Todd Allen

The structural material specimens will be implemented in the irradiation device, designed and procured by the CEA.

The structural material specimens are prepared by both Parties in order to fit the technical specifications given by the CEA Technical Contact.

The specimens are distributed in the device taking into account the local irradiation conditions and anticipated dpa, deduced from the axial distribution of flux and temperature.

Irradiation is scheduled for the four last reactor cycles, that is, insertion into the reactor planned at the end of June 2005 (for a PHENIX restart in September 2005).

Technical content

The technical content covers the manufacturing, irradiation and post-irradiation examination (PIE) results of the structural material defined in experimental grid. It covers:

1. Definition of the technical requirements of the irradiation by the CEA.

2. Provision by the DOE and the CEA of the exact chemical composition of the specimens.
3. Procurement by the DOE and the CEA of all structural material in order to prepare the specimens according the experimental grid.
4. Manufacture and inspection of structural material specimens by the DOE and the CEA; each party is responsible for the manufacturing of its specimens.
5. Transportation of structural material specimens provided by the CEA and the DOE to the PHENIX Reactor.
6. Drafting the files and drawings associated with the irradiation device.
7. Procurement, assemblies, controls of the irradiation device.
8. Implementation of specimens in the irradiation device.
9. CEA/PHENIX facility safety analyses induced by the introduction of the irradiation device under quality assurance.
10. Irradiations (irradiation monitoring and analysis file, neutrons).
11. Transportation of irradiation device and irradiated samples from the PHENIX Reactor to the PHENIX laboratories for the device dismantling and specimens conditioning (specimens will be cleaned versus sodium prior to transportation.
12. Organization of transportation and transportation of irradiated structural material samples from PHENIX to the DOE and the CEA hot cells for Post-irradiation examination (PIE).
13. PIE of irradiated structural material samples by the DOE and the CEA.
14. Written report on PIE and contribution to the final common DOE-CEA report.

All the files and reports will be written by the CEA, with the exception of the DOE specimens manufacturing reports which will be written by the DOE specimens manufacturer and the DOE specimens PIE, and of the final DOE-CEA synthesis report. In the context of file requirements, participants' KNOWLEDGE associated with their national programs will be exchanged

DISTRIBUTION OF TASKS

Task	Actor
Definition of the technical requirements for the irradiation (size of samples,..)	CEA
Provision of the exact chemical composition of the specimens	CEA, DOE
Procurement of all structural material in order to prepare the specimens according to the experimental grid	CEA, DOE
Manufacture and inspection of structural material specimens, monitoring of the suppliers	CEA, DOE
Transportation of structural material specimens to PHENIX	CEA, DOE
Specimens identification before irradiation	CEA
Drafting the files and drawings associated with the irradiation device	CEA
Procurement, assemblies, controls of the device, monitoring of suppliers	CEA
Implementation of specimens in the irradiation device	CEA
CEA/PHENIX facility safety analyses under quality assurance (ISO 9001)	CEA
Irradiations (irradiation monitoring and analysis file, neutrons).	CEA
Transportation of irradiation device and irradiated samples from PHENIX Reactor to the PHENIX laboratories	CEA
Device dismantling and specimens conditioning (specimens will be cleaned versus sodium)	CEA
Organization of DOE specimens transportation	DOE
Organization of CEA specimens transportation	CEA
Post-irradiation examination of CEA specimens	CEA
Post-irradiation examination of DOE specimens	DOE
Irradiation conditions file analysis Report	CEA
Final irradiation report	CEA, DOE
Irradiated device management	CEA
Specimens cleaning, effluent management	CEA

KEY DATES

- Confirmation of experimental grid: October 2004
- Confirmation of chemical composition of specimens December 2004
- Procurement of specimens to PHENIX: 30 March 2005
- Insertion into reactor: June 2005
- Removal from reactor: November 2008
- Transfer of irradiated specimens: June 2009
- Post-irradiation examination from June 2009
- Final report: December 2009

This schedule is dependent on PHENIX operation and may be revised.

FINANCIAL APPENDIX

Table No. 2 provides an estimate of the PROGRAM cost, broken down by task and the distribution of costs between the Parties.

TABLE N°2: PROGRAMME COST ESTIMATE IN EUROS		
Tasks	Amount	Distribution of costs
Structural material specimens :		
Definition of the technical requirements for the irradiation (size of samples,...)	6 550 €	50% CEA, 50%DOE
Provision of the exact chemical composition of the specimens		Outside the scope of the Agreement
Procurement of all structural material in order to prepare the specimens according to the experimental grid		Outside the scope of the Agreement
Manufacture and inspection of structural material specimens, monitoring of the suppliers		Outside the scope of the Agreement
Transportation of DOE structural material specimens to PHENIX		Outside the scope of the Agreement
Transportation of CEA structural material specimens to PHENIX		Outside the scope of the Agreement
Specimens identification before irradiation	6 550 €	50%CEA, 50%DOE
Irradiation device :		
Drafting the files and drawings associated with the irradiation device	13 100 €	50%CEA, 50%DOE
Procurement, assemblies, controls of the device, monitoring of suppliers	72 474 €	50%CEA, 50%DOE
Implementation of specimens in the irradiation device	3 450	50%CEA, 50%DOE
Irradiation in the PHENIX Reactor		
CEA/PHENIX facility safety analyses under quality assurance (ISO 9001)	20 960 €	50%CEA, 50%DOE
Irradiations (irradiation monitoring).	47 160 €	50%CEA, 50%DOE
Neutrons Cycle N°1	300 000 €	50%CEA, 50%DOE
Neutrons Cycle N°2	300 000 €	50%CEA, 50%DOE
Neutrons Cycle N°3	300 000 €	50%CEA, 50%DOE
Neutrons Cycle N°4	300 000 €	50%CEA, 50%DOE
Management of the irradiated specimens		
Transportation of irradiation device and irradiated specimens from PHENIX Reactor to the PHENIX laboratories	5 240 €	50%CEA, 50%DOE
Device dismantling and specimens conditioning (Sodium removal and effluent management)	14 480 €	50%CEA, 50 %DOE

Organization of the DOE and CEA specimens transportation		Outside the scope of the Agreement
Loading of CEA and DOE specimens in specified containers provided by the CEA and the DOE	5 240 €	50%CEA, 50%DOE
Post-irradiation examination (PIE), synthesis		
Irradiation Conditions File Analysis Report	10 916 €	50%CEA, 50%DOE
PIE of the CEA specimens		Outside the scope of the Agreement
PIE of the DOE specimens		Outside the scope of the Agreement
Synthesis Report	Each party contributes to the report.	50%CEA, 50%DOE
Irradiated device management	5 000 €	50%CEA, 50%DOE
Total amounts	1 411 120 €	
CEA contribution	705 560 €	
DOE contribution	705 560 €	

Table No. Schedule for the estimate of expenditure and distribution of expenditure between the Parties.

	2005	2006	2007	2008	2009	Task cost
IRRADIATION DEVICE						
Specimens specifications and identification	13 100					13 100
Drafting the files and drawings	13100	0	0	0		13100
Procurement, assemblies, controls,...	72 474	0	0	0		72 474
Specimens implementation	3450			0		3450
FILES						
CEA-PHENIX facility safety analyses under QA	20 960	0	0	0		20 960
IRRADIATION PHENIX :						
Irradiation monitoring	7860	15 720	15 720	7860		47 160
Irradiation (Neutrons)	200 000	400 000	400 000	200 000		1 200 000
Irradiation Conditions File Analysis Report				10 916		10 916
Irradiation device transportation				5 240		5 240
Device dismantling and specimens conditioning				10 480	10 480	10 480
Implementation in specified containers				5 240	5 240	5 240
Irradiated device management				5 000	5000	5 000
Specimens cleaning, effluent management				4 000	4000	4 000
Total	330 944	415 720	415 720	224 016	24 720	1 411 120
CEA contribution	165 472	207 860	207 860	112 008	12 360	705 560
DOE contribution	165 472	207 860	207 860	112 008	12 360	705 560
DOE Annual Installment	140 000	140 000	140 000	140 000	145 560	705 560

APPENDIX II

LIST OF KNOWLEDGE

KNOWLEDGE exchange pertains to:

1. Experimental grid
2. Specifications for the specimens shape and size
3. Chemical composition of specimens
4. Characteristics of irradiation device
5. Irradiation conditions (temperature, neutron flux,..)
6. Information required for the Technical and Safety Files
7. Characteristics of containers for irradiated specimens transportation
8. Irradiation Conditions File Analysis Report

APPENDIX III

TECHNOLOGY MANAGEMENT PLAN

Ownership rights

Each Party shall remain the owner of the KNOWLEDGE, whether patented or not, that it held prior to execution of the Implementing Arrangement.

RESULTS, other than inventions arising from the PROGRAM, shall be construed as owned by the Party creating the RESULTS. However, each Party may use or reproduce the said RESULTS without the consent of the other Party. With respect to publication or disclosure of the said RESULTS, except for manufacturing data, any such RESULTS delivered to one Party shall be subject to the unlimited right to publish or to the disclosure of such RESULTS for any purpose.

For inventions, i.e., subject matter that is or may be patentable, the Parties shall agree jointly to an equitable allocation of rights and responsibilities within a reasonable length of time from the time a Party becomes aware of the creation of an invention, taking into account the relative contributions of the Parties and other factors deemed appropriate.

Usage of RESULTS

Each Party shall have the right to make use of RESULTS, patented or not, obtained within the framework of the PROGRAM for its own research requirements, free of cost.

The industrial and commercial use of RESULTS, patented or not, may be performed through transfer of license or licenses to third parties.

Licenses may be transferred by each Party or any third party designated by the latter. The licensee and main license terms and conditions should be established in consideration of market conditions and the joint interest of the Parties.

Project Annex
Repository Geoscience and PA Technology Development
Under the
Agreement Between the Department of Energy Of the United States of America
and the Japan Atomic Energy Agency
for Cooperation in Research and Development in Nuclear Science and Energy

Preamble

This Project Annex is developed under the auspices of Agreement in Research and Development in Nuclear Science and Energy of April 4, 2007, hereinafter referred to as the "Agreement" between the Department of Energy of the United States of America (DOE) and the Japan Atomic Energy Agency (JAEA), hereinafter the "Parties," and is subject to the provisions therein.

This Project Annex establishes a framework, terms and conditions for the Parties' collaboration on the "Repository Geoscience and PA Technology Development" project ("the Project"), to be carried out through cooperative research between JAEA and DOE's Lawrence Berkeley National Laboratory (LBNL). It is designed to further develop science and technologies and to contribute to the knowledgebase related to radioactive waste management in order to ensure the safety and cost effectiveness of nuclear waste repository program. The Parties anticipate that the technology developed as part of this Project will help in furthering the confidence in the respective nuclear waste repository program.

Section 1 - Background

The "Repository Geoscience and PA Technology Development" Project will couple the scientific expertise available in the United States with the data sets available in the Japanese High Level Nuclear Waste (HLW) program to further the science and technologies for nuclear waste repository and to contribute to the knowledgebase for global consumption. To this end, JAEA is currently constructing two underground rock laboratories: one at Horonobe in sedimentary rock and another at Mizunami in crystalline rock. In addition, JAEA has an advanced aboveground facility, ENTRY, to conduct large-scale laboratory experiments. Vast amount of quality data have been coming out from these to site investigation program and PA, to which DOE's expertise and tools can be applied, tested and improved. Furthermore, JAEA is undertaking the development of repository science knowledgebase. DOE can contribute to the accumulation of the knowledgebase from its experience with the Yucca Mountain Program and elsewhere for global significance.

Section 2 - Project

- 2.1 In light of JAEA's extensive field and laboratory studies at Horonobe and Mizunami sites and at the ENTRY facility, the primary objective of the Project is to (a) improve the understanding of the fundamental physics and chemistry that governs the processes that will play a significant role in the safety of radioactive waste disposal, (b) further develop characterization and predictive technologies of release and transport of radionuclides in

heterogeneous geologic media, and (3) contribute to the compilation of knowledgebase of repository science and technology.

- 2.2 DOE shall conduct the research within the Project Annex at the Lawrence Berkeley National Laboratory (LBNL), Berkeley, California.
- 2.3 Details of the work under the objectives set forth in Section 2.1 will be developed annually through discussions and deliberations at the JAEA/DOE Technical Coordinators' annual meeting (see Section 4 below). Such details will be developed based on the progress made in the previous year and the needs of JAEA and DOE identified in the current year. The annual research program agreed by both sides will be documented in an Annual Work Statement. Work will only be started after the Annual Work Statement is finalized.
- 2.4 Annual reports from the Collaborative Program shall be prepared by LBNL and submitted to JAEA and DOE.
- 2.5 Technology and information developed under this Project Annex will be transferred to JAEA and DOE. The transfer shall be facilitated through such means as reports, workshops, and personnel visits. The mechanism of technology and information transfer will be in accordance with the articles set forth in the Agreement.

Section 3 - Project Intellectual Property

The Parties shall ensure adequate and effective protection of intellectual property created or furnished under this Project Annex and agree that all intellectual property arising from the Project activities shall be governed by the Annex to the Agreement.

Section 4 - Management Plan

DOE shall conduct the research outlined in the Attachment at the Lawrence Berkeley National Laboratories (LBNL), in Berkeley, California. Annual reports shall be prepared by LBNL and submitted to both Parties. The Parties shall designate one Technical Coordinator each to supervise the activities under this Project. The Technical Coordinator for DOE will work at Lawrence Berkeley National Laboratories and will be responsible for completion of the DOE components of all tasks. A coordinating group consisting of the Technical Coordinators and other participants from the Parties shall meet approximately semi-annually on dates and at locations mutually agreed upon. Decisions by this coordinating group shall be by agreement between the technical Coordinators, whose activities shall be under the oversight of the Parties' Principal Coordinators cited in Article 4 of the Agreement.

Section 5 - Funding

JAEA shall provide funding to DOE for the work outlined in the Attachment. The amount of funding and the work for each year shall be agreed upon in writing by the Technical Coordinators in the form of Annual Work Statement and Memorandum. JAEA's funding to DOE/LBNL for

Japanese fiscal year 2008 and after shall be subject to the approval of the budget by the Japanese Government. DOE through Lawrence Berkeley National Laboratory plans to make available laboratories and computer facilities, necessary equipment, ancillary staff services necessary to carry out the work mutually agreed upon. DOE/LBNL shall carry out its activities under this Project Annex subject to the availability of appropriated funds. JAEA shall be responsible for the services of necessary JAEA personnel and contractor staff to support the tasks outlined in the attachments to this Project Annex.

Section 6 - Dissemination of Project Information

The information derived from this Project is expected to be of global significance with respect to nuclear repository siting, characterization and license development. The Technical Coordinators will submit the results of the Project to the Parties. The Parties agree to disseminate the information as they see fit through professional meetings, technical reviews, specific documents and peer reviewed journals, workshops and other channels. Both Parties will strive for completely open distribution of the Project's research results.

Section 7 - Amendment of the Project Annex

This Project Annex may be amended by written agreement of the Parties.

Section 8 - Effective Date and Termination

1. This Project Annex shall become effective upon signature and shall remain in effect so long as the Agreement remains in effect. Definition, duration and funding of specific tasks or additional tasks under this Project Annex will be agreed upon in writing between the Technical Coordinators.
2. Either Participant may terminate this Project Annex at any time upon 3 months written notice to the other Participant.

SIGNED in duplicate in the English Language.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:

FOR THE JAPAN ATOMIC ENERGY
AGENCY:



3/17/2008

Research in the following three areas will be carried out on a "best effort within available funding" basis at the Lawrence Berkeley National Laboratory under the collaborative program. Work for each year will start upon signature of the Memorandum.

A. Development of site characterization, monitoring, and modeling methodologies:

LBNL will develop advanced technologies for characterization, monitoring and modeling for two types of potential repository host rocks: crystalline and sedimentary rock (corresponding to the Mizunami and Horonobe sites). We will investigate the use of independent lines of evidence such as the temperature distribution, salinity and other non-hydrologic data to help increase the model reliability. By conducting scenario testing simulations, we will attempt to develop technologies to reduce major uncertainties that are commonly associated with site characterization such as the boundary conditions, recharge rate and other parameters that are difficult to measure directly. We will also address the cause of anomalous observations such as low/high pressure zones through the use of alternative interpretation. The study should help guide the field investigations by indicating what kind of measurement are needed at what locations, which will lead to advanced analysis methods and reduced uncertainties. Adaptation of emerging technologies to site investigation and monitoring, such as wireless MEMS sensors for distributed and continuous measurements, and remote sensing technology will also be investigated.

B. Development of understanding and methodology for modeling of solute transport in complex fractured rock and improvement of field method to provide needed heterogeneity data for such modeling:

Under this task, LBNL will continue to develop basic understanding of the role of the processes and features affecting flow and tracer transport in geological systems, and methods will be developed for field measurements of controlling parameters and for modeling tracer migration and breakthrough curves in such systems. Such understanding is critical for understanding data from field measurements and conducting performance and safety assessment of a nuclear waste geologic repository. More specifically, two complementary lines of research will be pursued. Firstly, the applicability of parameters determined from the scale field tests to predictive calculations on the scale appropriate to performance assessment will be evaluated and assessed. How to relate the two scales will be a question to be addressed. Secondly, research will be conducted on the flowing fluid electric conductivity logging method which has been shown to be a useful technique to obtain spatial variation of permeability along a borehole and, in particular, the permeabilities of all fractures intersected by the well. This method will be further developed so as to enabling the measurement of critical data necessary for characterizing a site and for modeling of solute transport over multiple scales in complex fractured rocks.

C. Scientific discussion and input to site investigation program and PA.:

LBNL will participate in meetings to discuss with JAEA on the site investigation program and PA. The experience and knowledge of LBNL scientists and the lessons learned through the Yucca Mountain Program and other international repository programs should be most useful.

Memorandum between U.S. Department of Energy/LBNL and
Japan Atomic Energy Agency

This is to confirm the amount of funding provided by the Japan Atomic Energy Agency (JAEA) based on the Section 5 of the Project Annex between JAEA and the U.S. Department of Energy (DOE) for the Collaborative Program on Repository Geoscience and PA Technology Development.

The total amount of XXX U.S. dollars will be funded from the date of signature to March 31, 20XX for the tasks to be carried out at the Lawrence Berkeley National Laboratory (LBNL) and described in the attached Annual Work Statement. The payment will be made within 30 days from JAEA's receipt of invoice from LBNL.

Confirmation of Work and funding by
Japan Atomic Energy Agency

Acceptance of Work Statement by
US DOE/LBNL

JAEA International Affairs Department

LBNL Contract Officer

Date: _____.

Date: _____.

**ARRANGEMENT BETWEEN
THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF PETROLEUM AND NATURAL GAS
OF THE REPUBLIC OF INDIA
FOR THE EXCHANGE OF INFORMATION RELATING TO
THE HYDROCARBON SECTOR**

The Department of Energy of the United States of America and the Ministry of Petroleum and Natural Gas of the Republic of India (hereinafter referred to as the "Participants");

Recognizing their mutual interest in consulting and exchanging readily available hydrocarbon sector statistics and other hydrocarbon sector market information;

Desiring to improve information technology processes in the hydrocarbon sector;
and

Seeking broader dissemination of available hydrocarbon sector information;

State their understanding as follows:

ARTICLE 1

OBJECTIVE AND IMPLEMENTATION

The overall objective of cooperation under this Arrangement is to establish for the mutual benefit of the Participants a reasonably balanced exchange of hydrocarbon sector information to complement existing hydrocarbon sector statistics and other hydrocarbon sector market information. For the Department of Energy of the United States of America and the Ministry of Petroleum and Natural Gas of the Republic of India, cooperative activities under this Arrangement are to be conducted by the Energy Information Administration and the Petroleum Planning & Analysis Cell, respectively.

ARTICLE 2

AREAS OF COOPERATION

Cooperation under this Arrangement may include the following:

1. Exchange of annual hydrocarbon sector market statistics, including those relating to production, imports, exports, stocks, bunkers, transformation, and demand;

DKG 

2. Exchange of other related data and information concerning fuel characteristics, refining capacity, reserves, and other hydrocarbon sector information;
3. Exchange of information concerning statistics methods, analytic techniques, and system documentation;
4. Exchange of information about electronic information dissemination; and
5. Other areas as mutually determined by the Participants in writing.

ARTICLE 3 FORMS OF COOPERATION


The forms of cooperation undertaken by the Participants in the areas specified in Article 2 may include the following:

1. Assignment of personnel for agreed periods of time in order to participate in activities conducted in research centers, laboratories, universities, and other facilities and enterprises of each Participant or of associated organizations;
2. Organization of workshops and meetings; and
3. Other forms of cooperation as the Participants mutually determine in writing.

The Participants understand that cooperation under this Arrangement is not to include any research and development activities.

ARTICLE 4 MANAGEMENT

1. The Participants intend to establish a Working Group, consisting of an equal number of representatives of each Participant. Each Participant is to designate a Co-Chair for the Working Group to coordinate plans for the overall management of cooperative activities under this Arrangement. The Co-Chairs are to meet as needed, alternately in the United States and in India unless otherwise decided, to evaluate the status of cooperation under this Arrangement. This evaluation is to include a review of achievements, problems, and effectiveness of activities under this Arrangement. The Co-Chairs are to consider and approve future program opportunities with a view to maximizing the mutual benefits of cooperation.
2. Each Co-Chair is to designate a technical advisor to serve as the point-of-contact for the supervision of activities under the Arrangement.

DKC 

3. Each Co-Chair may appoint technical coordinators to manage specific cooperative tasks initiated under this Arrangement and to establish and maintain working contacts at the staff level.
4. Meetings of the Working Group or selected members from the Working Group are to be held as decided by the Co-Chairs.
5. The agendas for all meetings are to be determined by the Co-Chairs. Minutes are to be signed immediately after each meeting.
6. Working Group members are responsible for their own travel and lodging expenses. It is expected that the Participant hosting a meeting of the Co-Chairs is to pay the costs for arrangements associated with the meeting.

ARTICLE 5

ASSIGNMENT OF PERSONNEL

The Participants intend the following provisions to apply to assignment of staff:

1. Each Participant is to ensure that qualified staff is selected for assignment to the other Participant. Each assignment of staff is to be the subject of a separate written agreement between the Participants.
2. Each Participant is to be responsible for the salaries, insurance, and allowances of its personnel. The assigning Participant is to pay for the travel and living expenses of its personnel while on assignment to the receiving Participant unless the Participants agree otherwise in writing.
3. The receiving Participant is to arrange for adequate accommodations for the assigned personnel and their families on a mutually agreeable, reciprocal basis.
4. The receiving Participant is to provide appropriate assistance to the assigned personnel and their families as regards administrative and travel formalities, such as assistance in making travel arrangements.
5. The assigning Participant is to ensure that its assigned personnel conform to rules of work and safety regulations in force at the establishment of the receiving Participant, or as set forth in the personnel assignment agreement.

DKC



ARTICLE 6

AVAILABLE INFORMATION

The Participants intend that information transmitted by a Participant to the other Participant under this Arrangement is to be accurate to the best knowledge and belief of the transmitting Participant.

ARTICLE 7

GENERAL PROVISIONS

The Participants understand that:

1. Each Participant is to conduct its activities provided for under this Arrangement subject to its applicable laws and regulations, and subject to the availability of personnel and appropriated funds.
2. The Participants understand that no proprietary, classified, or restricted information is to be exchanged as a result of the activities under this Arrangement.
3. The Participants understand that, unless otherwise agreed in writing, all costs resulting from activities under this Arrangement are the responsibility of the Participant that incurs them.
4. The Participants understand that this Arrangement is not intended to create legally binding obligations.

ARTICLE 8

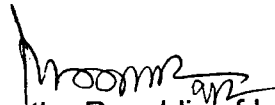
FINAL PROVISIONS

1. Cooperation under this Arrangement may commence upon signature, and continue for five years. The Participants through mutual consultation may alter the terms of this Arrangement in writing at any time.
2. If either Participant wishes to terminate its activities under this Arrangement, it is to give six (6) months advance written notification to the other Participant.

DCG 



For the United States of America:
David K. Garman, Under Secretary,
U.S. Department of Energy



For the Republic of India:
M.S. Srinivasan, Secretary,
Ministry of Petroleum and
Natural Gas

Date: February, 9 2006

Place: New Delhi

REVISION NO. 1
TO
MEMORANDUM OF UNDERSTANDING
AMONG
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE COMMISSARIAT À L'ÉNERGIE ATOMIQUE OF THE FRENCH REPUBLIC
AND
THE JAPAN ATOMIC ENERGY AGENCY
CONCERNING COOPERATION ON SODIUM-COOLED FAST REACTOR PROTOTYPES

The Department of Energy of the United States of America, the Commissariat à L'Énergie Atomique of the French Republic, and the Japan Atomic Energy Agency,, hereinafter the "Participants,"

ACKNOWLEDGING the positive results of their cooperation under their Memorandum of Understanding (MOU) of January 31, 2008, and

DESIRING to expand the scope of their cooperation and consult on appropriate arrangements for their future cooperation,

HEREBY REVISE THE MOU AS FOLLOWS:

1. The Participants intend to cooperate in the following areas in addition to the areas listed in Paragraph 3 of the MOU:

- exploring a plan to reflect data and experience from the Monju reactor restart to future demonstration/prototype reactors,
- discussing a common strategy regarding research and facilities that will be needed to produce and qualify minor actinide-bearing transmutation fuel or targets, and
- discussing advanced fast reactor fuel cycle characteristics.

2. A report summarizing progress achieved on the topics covered in the MOU should be jointly developed by the Participants by October 1, 2008.

3. In addition to the activities cited in Paragraph 10 of the MOU, the Steering Committee should coordinate discussions among the Participants to identify areas for potential future cooperation in the field of separations technology complementary to the activities conducted under this MOU.

4. Paragraph 6 of the MOU is revised to read as follows:

“Each Participant should conduct the cooperation under this MOU in accordance with applicable laws and regulations in its respective country, as well as the provisions of relevant international agreements.”

5. Paragraph 12 of the MOU is revised to read as follows:

“Cooperation under this MOU may commence upon signature. If a Participant wishes to discontinue its participation in the activities contemplated by this MOU, it should endeavor to provide at least 90 days’ advance notice in writing to the other Participants. The Participants may discontinue their cooperation under this MOU at any time by mutual consent in writing.”

This Revision No. 1 takes effect from July 1, 2008.

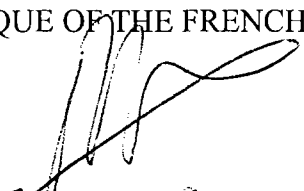
Signed in three originals.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:



Date: **AUGUST 7, 2008**
Place: **WASHINGTON, D.C.**

FOR THE COMMISSARIAT À L'ÉNERGIE
ATOMIQUE OF THE FRENCH REPUBLIC :


Date: 25 Aout 2008
Place: SACLAY

Alain BUGAT
Administrateur Général

FOR THE JAPAN ATOMIC ENERGY AGENCY:

岡崎俊雄

Date: August 18, 2008
Place: Tokyo

**NON-DISCLOSURE ARRANGEMENT
CONCERNING COOPERATION ON SODIUM-COOLED FAST REACTOR
PROTOTYPES**

AMONG :

THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA,
an instrumentality of the Government of the United States of America, with headquarters
located at 1000 Independence Avenue, S.W., Washington, D.C. 20585,

AND

THE JAPAN ATOMIC ENERGY AGENCY, an Independent Administrative Entity of Japan
established by the Japan Atomic Energy Agency Law, with headquarters located at 4-49,
Muramatsu, Tokai-mura, Naka-gun, Ibareki-ken, 319-1184 Japan,

AND

THE COMMISSARIAT À L'ÉNERGIE ATOMIQUE OF THE FRENCH REPUBLIC,
a French state-owned research entity with a scientific, technical activity duly organised under
the laws of France and having its registered office, located at Bâtiment Le Ponant D - 25, rue
Leblanc - Paris 15ème (France) - and declared at the Paris Register of Commerce and Trade
("Registre du Commerce et des Sociétés de Paris") under the following registration number :
R.C.S. PARIS B 775 685 019,

Confirming that this Arrangement does not constitute an agreement among the governments
of the United States of America, Japan and the French Republic, and acting in furtherance of
paragraph 7 of the Memorandum of Understanding among the Department of Energy of the
United States of America, the Japan Atomic Energy Agency, and the Commissariat à
l'Energie Atomique of the French Republic concerning Cooperation on Sodium-Cooled Fast
Reactor Prototypes of 31 January 2008, as revised (hereinafter the "MOU"),

IT IS HEREBY AGREED AS FOLLOWS :

ARTICLE 1 : PURPOSE

The purpose of the present Arrangement is to set forth the conditions under which the Parties
undertake to maintain the confidentiality of all Business-Confidential Information exchanged
during activities performed within the framework of the MOU. The Parties acknowledge that
no information with a national security classification shall be disclosed under this
Arrangement, and that each Party shall comply with applicable laws and regulations to which
it is subject, including all applicable export control laws and regulations, as well as the
provisions of relevant international agreements to which its government is a party.

ARTICLE 2 : BUSINESS-CONFIDENTIAL INFORMATION

2-1 Business-Confidential Information :

Business-Confidential Information is defined as any type of information, and/or data disclosed and/or made accessible by one Party (hereinafter the “Disclosing Party”) to another Party (hereinafter the “Receiving Party”), and properly designated as “Business-Confidential” by the Disclosing Party. This information and/or data shall be regarded as Business-Confidential Information, whether they are disclosed orally or in writing, regardless of the medium (including but not limited to paper, magnetic, digital or any other medium) and regardless of its/their nature, whether scientific, technical, financial, commercial, legal or of any other nature. Business-Confidential Information may include, without limitation, any sample, prototype, product, chart, plan, data and/or process, whether patentable or not.

The Disclosing Party shall mark all Business-Confidential Information with an appropriate stamp, legend or other written notice; or, when Business-Confidential Information is disclosed orally and is treated as Business-Confidential at the time of its disclosure, the Disclosing Party shall promptly (but in no case later than 40 days after oral disclosure), confirm in writing to the Receiving Party the Business-Confidential nature of the information.

2-2 Exceptions

Business-Confidential Information does not include information :

- that at the date of its disclosure to the Receiving Party, was already in the Receiving Party’s possession, provided that it was not in breach of any legal obligation, or
- that was independently developed in good faith by members of the Receiving Party’s staff, or
- that was lawfully received from a third party not subject to any obligation of confidentiality, or
- that was publicly accessible at the moment of communication by the Disclosing Party, or that became so after the communication through no error on the part of the Receiving Party, or
- for which disclosure was required by law or regulation, or a final decision of a court. In this case, the communication of Business-Confidential Information shall be limited to that which is strictly necessary to comply with such duty. The Receiving Party is required, to the fullest extent feasible, to previously notify the Disclosing Party of such communication.

ARTICLE 3 : OBLIGATIONS OF THE RECEIVING PARTY

The Receiving Party undertakes to maintain as confidential Business-Confidential Information provided by the Disclosing Party, and notably :

3-1 to take all necessary measures to prevent the loss or theft of Business-Confidential Information, the fraudulent access to such Business-Confidential Information, as well as any disclosure to any third party that would not be authorized by the provisions of this Arrangement, except that such Business-Confidential Information may be disclosed, solely for purposes of carrying out cooperation under the MOU, to contractors or subcontractors of a Party, and under the restriction that the Business-Confidential Information be retained in confidence and not be further disclosed. In the event where, in spite of these precautions, a third party other than a contractor or subcontractor of a Party carrying out a purpose of the cooperation under the MOU, has access to all or a part of Business-Confidential Information, the Receiving Party undertakes to immediately inform the Disclosing Party, by any means, immediately after discovering any breach of confidentiality.

3-2 not to copy, reproduce, duplicate, communicate, transfer, whether directly or indirectly, Business-Confidential Information to any third party other than a contractor or subcontractor of a Party carrying out a purpose of the cooperation under the MOU, without the prior written authorization of the Disclosing Party. If the Receiving Party wishes to copy, reproduce, duplicate, communicate, transfer, whether directly or indirectly, Business-Confidential Information to any third party other than a contractor or subcontractor of a Party carrying out a purpose of the cooperation under the MOU, it shall seek explicit written authorization therefor from the Disclosing Party. Such a request shall be sent by registered mail, with notice of receipt. If the Disclosing Party does not respond within two (2) months after receipt of such request, its consent shall be deemed to have been given.

3-3 to transfer to its staff or its contractors or subcontractors carrying out a purpose of this Cooperation only the part of Business-Confidential Information that is strictly necessary for the implementation of the cooperation under the MOU.

3-4 to take any appropriate measure to have its staff, contractors and subcontractors abide by the provisions of this Arrangement.

ARTICLE 4 : USE OF BUSINESS-CONFIDENTIAL INFORMATION

4-1 All Business-Confidential Information, as well as any reproduction that may have been authorized in conformity with the terms of article 3-2 of the present Arrangement, shall remain the property of the Disclosing Party, unless otherwise stated in writing by the Disclosing Party and provided such Business-Confidential Information is returned to the Disclosing Party or otherwise disposed of in conformity with the terms of article 6-4 of the present Arrangement.

4-2 The Receiving Party undertakes not to use Business-Confidential Information received from a Disclosing Party, whether directly or indirectly, for any other purpose than carrying out cooperative activities contemplated by the MOU.

4-3 The communication of Business-Confidential Information from the Disclosing Party to the Receiving Party shall not be construed as granting any license or amounting to any waiver of rights by the Disclosing Party to protect its Business-Confidential Information by a patent or any other intellectual property right, nor can it be construed as granting the

Receiving Party any right on the use or exploitation of such Business-Confidential Information other than as specified in this Arrangement.

ARTICLE 5 : NO WARRANTY

The Disclosing Party makes no representations or warranties, whether express or implied, with respect to the accuracy, completeness or fitness for particular purpose of any Business-Confidential Information.

ARTICLE 6 : TERM AND DURATION

6-1 This Arrangement shall enter into force on July 1, 2008, and (subject to the termination provision of article 6-2) will remain in effect for 20 years.

6-2 The Parties may by mutual agreement in writing amend or terminate this Arrangement at any time.

6-3 A Party may withdraw from this Arrangement upon 3 months prior written notice to the other Parties; provided, however, that the withdrawing Party shall be subject to the provisions of articles 6-4 and 6-5.

6-4 After a Party withdraws or upon termination of this Arrangement for any reason whatsoever or at any time, at the Disclosing Party's written request, the Receiving Party shall, within the shortest delay:

- a) return all Business-Confidential Information that has been received, or
- b) destroy all copies, extracts and reproductions of Business-Confidential Information received in connection with the MOU, including any document, memo, minutes of a meeting including it, and provide the Disclosing Party with a certificate of destruction of such elements.

6-5 The confidentiality provisions and obligations regarding the use of Business-Confidential Information shall stay in force for 25 years from the date of the Arrangement's entry into force. This provision shall survive the termination of this Arrangement or the withdrawal of a Party.

ARTICLE 7 : MISCELLANEOUS

7-1 Nothing in this Arrangement shall affect the ownership of any Business-Confidential Information or any intellectual property rights therein. No provisions in this Arrangement shall be construed as an obligation for the Disclosing Party to communicate its Business-Confidential Information, nor the materials, inventions or discoveries that are related to it.

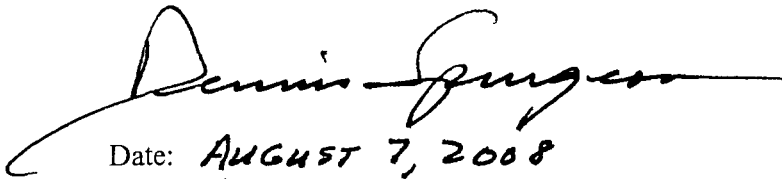
7-2 Each Receiving Party undertakes not to assign or transfer its rights or obligations under this Arrangement to any third party.

ARTICLE 8 : GOVERNING LAW – SETTLEMENT OF DISPUTES

8-1 The Parties concerned shall select the governing law and the competent court for the resolution of any dispute relating to the existence, the validity, the construction, the performance, and/or the termination of this Arrangement, and that the concerned Parties are unable to solve amicably.

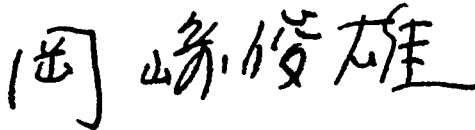
EXECUTED IN THREE ORIGINAL COUNTERPARTS, ONE FOR EACH PARTY:

For the Department of Energy of the United States of America :



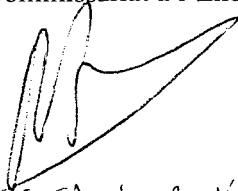
Date: **AUGUST 7, 2008**
Place: **WASHINGTON, DC**

For the Japan Atomic Energy Agency :



Date: **August 18, 2008**
Place: **Tokyo**

For the Commissariat à l'Energie Atomique of the French Republic:



Date: **25 Aout 2008**
Place: **SACLAT**

Alain BUGAT
Administrateur Général

IMPLEMENTATION AGREEMENT 4

**BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF NATIONAL INFRASTRUCTURE OF
THE STATE OF ISRAEL**

**FOR COOPERATION IN THE FIELD OF RENEWABLE ENERGY
AND ENERGY EFFICIENCY**

The Department of Energy of the United States of America and the Ministry of National Infrastructure of the State of Israel, referred to herein individually as a “Party” and together as the “Parties”,

ACTING pursuant to Article V.b of the Agreement between the Department of Energy of the United States of America and the Ministry of National Infrastructure of the State of Israel Concerning Energy Cooperation of February 22, 2000 (the “Agreement”);

RECOGNIZING the importance of developing advanced energy technologies for attaining energy security while preserving the environment, improving energy efficiency and diversifying the energy supply; and

SEEKING to renew and expand the Parties’ cooperation regarding the research, development, and demonstration of advanced renewable energy technologies and energy efficiency technologies;

AGREE AS FOLLOWS:

Article 1

1. The purpose of this Implementation Agreement is to establish a framework for cooperation between the Parties in the field of renewable energy and energy efficiency.
2. This Implementation Agreement is subject to and governed by the Agreement.

Article 2

The areas of collaborative research and development under this Implementation Agreement may include, but are not limited to:

- (a) new and improved sources of high temperature thermal energy storage;
- (b) electric vehicle and plug-in hybrid electric vehicle battery technologies and utilization approaches;
- (c) biofuel production and use, including enzyme catalysts for conversion of biomass to biofuel, and use of microalgae to produce biofuels and boosting production by taking advantage of power plant CO₂ emissions to accelerate algae growth;
- (d) advanced technologies for improved efficiencies in water desalinization techniques, such as photovoltaic powered reverse osmosis.

Article 3

1. Activities under this Implementation Agreement may include information exchange, seminars, and programs for research visits and exchange of personnel between research establishments, joint research and development projects and collaboration between leading research and development centers in the United States and Israel, and other activities as jointly agreed in writing by the Parties or their designated agents.
2. The Parties may invite entities in the private sector to participate, at their own expense and under such other conditions as the Parties jointly agree, in the cooperative activities under this Implementation Agreement.

Article 4

1. The Parties hereby establish a Bilateral Working Group, consisting of an equal number of representatives of each Party, to promote and manage the cooperative activities under this Implementation Agreement.
2. Each Party may invite experts and other individuals, including a representative of the United States – Israel Binational Industrial Research and Development Foundation (BIRD) and the United States Israel Binational Science Foundation (BSF), to attend Bilateral Working Group meetings as observers, to obtain those individuals' advice on the topics of the agenda.

3. Each Party may designate a national point of contact for the Bilateral Working Group.
4. Unless the Parties decide otherwise, the Bilateral Working Group intends to meet at least once a year. The Parties intend to hold their first meeting no later than December 31, 2008.
5. The Bilateral Working Group shall report on an annual basis the progress of the cooperative activities within this Implementation Agreement to the Coordinators identified pursuant to Article IV of the Agreement.

Article 5

1. This Implementation Agreement shall enter into force upon signature.
2. A Party may terminate this Implementation Agreement at any time by a written notice to the other Party. Termination shall take effect 30 days following the date of that notification.
3. Subject to paragraph 2 of this Article, this Implementation Agreement shall remain in force for the duration of the Agreement.
4. This Implementation Agreement may be amended in writing by the Parties at any time, so long as the Agreement remains in force.
5. Any activity undertaken under this Implementation Agreement and not completed upon termination or expiration of this Implementation Agreement may be continued to completion, provided the Agreement remains in force.

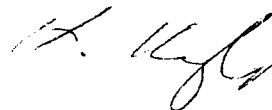
IN WITNESS WHEREOF, the undersigned, being duly authorized by their respective Governments, have signed this Implementation Agreement.

DONE at Jerusalem, in duplicate this 28th day of MAY, 2008.

FOR THE DEPARTMENT OF
ENERGY OF THE
UNITED STATES OF AMERICA:



FOR THE MINISTRY OF
NATIONAL INFRASTRUCTURE
OF THE STATE OF ISRAEL:



Statement of Intent
between
The Department of Energy of the United States of America
and
The Ministry of Economy, Trade and Industry of Japan
for Cooperation in Methane Hydrates

The Department of Energy of the United States of America (DOE) and the Ministry of Economy, Trade and Industry of Japan (METI) (hereinafter referred to as the "Participants"),

DESIRING to cooperate to increase understanding of the geologic occurrence of, and the potential for methane production from, methane hydrates in both Japan and the United States;

SHARING a long tradition of scientific cooperation under the Agreement between the Government of the United States of America and the Government of Japan on Cooperation in Research and Development in Science and Technology of June 20, 1988, as extended and amended; and

NOTING their countries' participation in international methane hydrate research and development projects, including the Integrated Ocean Drilling Program and the methane hydrate production test wells in 2002 in the Canadian Arctic,

State their intention as follows:

Section 1. Objective

The proposed cooperation between the METI and the DOE under this Statement of Intent (Statement) aims to enhance and accelerate the understanding of the geologic occurrence, distribution, exploration and production of methane hydrates in the Arctic and along the continental margin of Japan and the United States of America.

Section 2. Areas of Cooperation

The Participants intend to exchange scientific and technical information and scientific personnel; conduct workshops, seminars and other meetings; and plan cooperative research with respect to the following broad areas of cooperation:

- Methane hydrate exploration and resource assessment;
- Laboratory analysis and characterization of sediments containing methane hydrate;
- Modeling for producibility of natural gas from hydrated reservoirs;
- Field testing of producibility from Alaskan North Slope hydrate reservoirs;
- Environmental studies of the impacts of methane hydrate in the global carbon cycle, global climate change and seafloor stability.

Section 3. Participating Organizations

By mutual consent, the Participants may invite organizations in their respective countries to work together collaboratively on methane hydrates under this Statement.

Section 4. Exchange of Information

The Participants may exchange scientific and technical information, documents and results of research and development. Such information should be limited to that which the Participants have the right to disclose, either in their possession or available to them. Information to be exchanged under this Statement includes, but is not limited to, available technology, knowledge sharing, seismic data, well logs, core analysis, and other related laboratory analysis.

Section 5. Management

Each Participant should designate a coordinator for the activities under this Statement. Each coordinator may appoint technical coordinators to manage specific cooperative activities under this Statement. The coordinators may meet at such times and places as they may jointly determine.


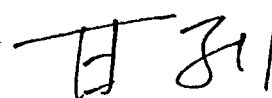
Section 6. General Matters

1. Implementation of this Statement may commence upon signature by both Participants and continue for three years, subject to paragraph 3 below. This Statement may be extended for additional periods as determined in writing by both Participants.
2. This Statement may be modified in writing at any time by the Participants' mutual consent.
3. If either Participant wishes to discontinue its cooperation under this Statement, it should endeavor to provide ninety (90) days written notice to the other Participant.
4. Each Participant is responsible for its costs of participating in the cooperative activities under this Statement.
5. This Statement does not create any legally binding obligations.
6. Each Participant should conduct the activities provided for under this Statement in accordance with the applicable laws and regulations to which it is subject, and subject to the availability of personnel and appropriated funds.

Signed at Aomori on the sixth day of June, 2008, in duplicate.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:

FOR THE MINISTRY OF ECONOMY,
TRADE AND INDUSTRY OF JAPAN:

  12/2

MEMORANDUM OF UNDERSTANDING

BETWEEN

**THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA**

AND

**THE MINISTRY FOR ECONOMY AND INNOVATION
OF THE PORTUGUESE REPUBLIC**

ON COOPERATION IN WAVE ENERGY TECHNOLOGIES

The Department of Energy of the United States of America and the Ministry for Economy and Innovation of the Portuguese Republic, hereinafter the "Signatories";

Recognizing that Portugal is a leader in wave energy generation technologies;

Noting that an operational wave energy program may be a key element of the economic growth and energy security of the United States, Portugal and other countries;

Recognizing the benefit of sharing lessons learned in seeking solutions to common energy challenges;

Sharing a sense of commitment to enhancing energy security through development of cutting edge technology such as wave energy generation technology; and

Desiring to cooperate in the area of new and renewable energy technologies;

Have reached the following understanding:

1. Scope of Cooperation

The purpose of this Memorandum of Understanding (MOU) is to establish a framework for the Signatories' cooperation on the policy, scientific and technical aspects of wave energy generation and other renewable energy technologies.

2. Areas and Forms of Cooperation

a. The Signatories intend to develop a work plan to define the scope of their proposed cooperation under this MOU. The work plan may be revised in writing as mutually determined by the Signatories.

b. The areas and forms of cooperation under this MOU include, but are not limited to:

- Wave resource assessment methodology
- Exchange of personnel for short-term visits and assignments
- Test planning and evaluation of ocean wave technology demonstration projects
- Exchange of engineering and environmental test data
- Exchange of information on wave energy device modeling.

3. Joint Working Group

The Signatories intend to establish a Joint Working Group to manage their cooperation under this MOU. The Joint Working Group should review the work plan on an annual basis, by meeting in person or through written communications. Each Signatory should identify a point of contact responsible for coordination.

4. Participating Organizations

The Signatories, through the Joint Working Group, may invite other entities, including laboratories, universities, and private sector organizations, to participate at their own expense in the cooperation under this MOU.

5. Financial and Human Resources

a. Each Signatory is responsible for the costs of its participation in all cooperative activities carried out under this MOU unless the Signatories determine otherwise in writing.

b. Each Signatory's participation in the cooperative activities under this MOU is subject to the availability of funds, resources, and personnel and is to be conducted in accordance with the laws and regulations of that Signatory's government.

6. Legal Effects

This MOU does not create any legally binding obligations between the Signatories.

7. Commencement, Revision, Discontinuation

a. Implementation of this MOU may commence on the date of signature.

b. This MOU may be revised by mutual determination of the Signatories in writing.

c. A Signatory should endeavor to give the other Signatory at least 6 months written notice of its intention to discontinue its cooperation under the MOU and the Signatories should continue to work together to conclude specific cooperative projects already in progress.

Signed at Lisbon the 27th day of May 2008, in duplicate in the English and Portuguese languages.

For the Department of Energy of
the United States of America:



For the Ministry of Economy and
Innovation of the Portuguese Republic:



STATEMENT OF INTENT
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF KNOWLEDGE ECONOMY OF THE REPUBLIC OF KOREA
FOR EXCHANGE OF INFORMATION
ON GAS HYDRATE RESEARCH AND DEVELOPMENT

The Department of Energy of the United States of America (DOE) and the Ministry of Knowledge Economy of the Republic of Korea (MKE) (hereinafter referred to as the “Participants”),

RECOGNIZING the importance of gas hydrate research to global and national energy resources, global climate change and geo-hazards;

AIMING to strengthen the cooperation between the Participants in the area of gas hydrate research and development; and

RECOGNIZING that cooperation in the area of gas hydrate research and development will be of mutual benefit to both Participants,

State their intention as follows:

Section 1: Scope of Cooperation

DOE, through its Office of Fossil Energy, and MKE intend to exchange information on the following:

- Gas hydrate exploration and resource assessment
- Methods of production of gas hydrates
- Field testing of gas hydrate production
- Gas hydrate dissociation and the potential to mitigate its effects on climate change.

Section 2: Exchange of Personnel

The Participants may assign staff to each other for the purpose of sharing knowledge and experience and to provide career development opportunities for each Participant's staff. Each such proposed staff assignment should be the subject of a written agreement between the sending and host institutions.

Section 3: Use of Information

The Participants may exchange scientific and technical information, documents and results of research and development. Such information should be limited to that which the Participants have the right to disclose, either in their possession or available to them.

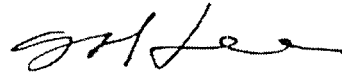
Section 4: General Provisions

1. Implementation of this Statement of Intent (Statement) may commence upon signature by both Participants and (subject to Paragraph 5) continue for five years. This Statement may be extended for additional periods as determined in writing by both Participants.
2. This Statement does not create any legally binding obligations by or between the Participants.
3. Each Participant is responsible for its costs of participating in the activities under this Statement.
4. Each Participant should conduct the activities contemplated by this Statement in accordance with the laws and regulations to which it is subject, and subject to the availability of personnel and appropriated funds.
5. If either Participant wishes to discontinue its cooperation under this Statement, it should endeavor to provide ninety (90) days written notice to the other Participant.

Signed at Washington, in duplicate, this 18th day of April, 2008.



**For the Department
of Energy
of the United States of America:**



**For the Ministry
of Knowledge Economy
of the Republic of Korea:**

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE GOVERNMENT OF THE UNITED STATES OF AMERICA
AND
THE GOVERNMENT OF THE HASHEMITE KINGDOM OF JORDAN
CONCERNING COOPERATION IN NUCLEAR ENERGY AND OTHER ENERGY
FIELDS

The Government of the United States of America and the Government of the Hashemite Kingdom of Jordan, hereinafter the "Participants",

ACKNOWLEDGING the need to consider an appropriate mix of environmentally safe and secure sources of energy, including nuclear power, to meet the needs of their respective countries' populations;

RECOGNIZING the need to address challenges of growing energy needs facing both Participants' countries, as well as the broader international community, in a manner that contributes to reducing the harmful effects of greenhouse gases on the global climate;

AFFIRMING the vision and goals of the Global Nuclear Energy Partnership, which seeks the safe, secure and environmentally sustainable development of civilian nuclear energy for peaceful purposes and in a manner that supports nuclear nonproliferation and international safeguards;

UNDERSCORING the shared commitment of both Participants to preventing nuclear proliferation and to strengthening the nuclear non-proliferation regime;

AFFIRMING their strong support for the Treaty on the Non-Proliferation of Nuclear Weapons and for the safeguards system of the International Atomic Energy Agency (IAEA), including the Additional Protocol;

ACKNOWLEDGING their common responsibility to fulfill the requirements of relevant United Nations Security Council Resolutions, including Resolution 1540;

AFFIRMING the intent of the Hashemite Kingdom of Jordan (hereinafter "Jordan"), consistent with the vision of the Global Nuclear Energy Partnership, to rely on existing international markets for nuclear fuel services as an alternative to the pursuit of enrichment and reprocessing, and the intent of the United States to support these international markets in order to ensure reliable fuel supply for Jordan;

HAVE REACHED THE FOLLOWING UNDERSTANDING:

(1) The Participants intend to cooperate, subject to their respective national laws, in the following areas:

-- development of agreed requirements for grid-appropriate power reactors and fuel service arrangements for Jordan, in a manner that is consistent with the Global Nuclear Energy Partnership;

-- promotion of the establishment of a reliable source of nuclear fuel for future civilian light water nuclear reactors deployed in Jordan;

-- development of Jordan's civilian nuclear energy use in a manner that contributes to global efforts to prevent nuclear proliferation;

-- civilian nuclear energy training, human resource and infrastructure development, and appropriate application of civilian nuclear energy and related energy technology, in accordance with evolving IAEA guidance and standards on milestones for infrastructure development;

-- application of radioisotopes and radiation in industry, agriculture, medicine and the environment;

-- radiation protection and management of radioactive waste and spent fuel;

-- nuclear safety, security, safeguards and nonproliferation, including physical protection, export control and border security;

-- identification of uranium mining and milling resources; and

-- other areas of cooperation as may be determined by the Participants.

(2) The cooperation may be undertaken in the following forms:

(a) exchange of scientific and technical information and documentation;

(b) exchange and training of personnel;

(c) organization of symposia and seminars;

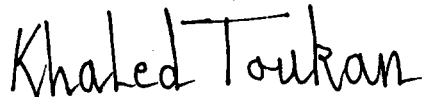
(d) provision of relevant technical assistance and services;

(e) other forms of cooperation as may be mutually determined by the Participants.

Signed at Vienna, in duplicate, the 16 day of September, 2007.



FOR THE GOVERNMENT OF
THE UNITED STATES
OF AMERICA:



FOR THE GOVERNMENT OF
THE HASHEMITE KINGDOM
OF JORDAN:

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA
AND
THE MINISTRY OF NATIONAL INFRASTRUCTURES OF
THE STATE OF ISRAEL
CONCERNING COOPERATION ON RENEWABLE AND SUSTAINABLE ENERGY

The Department of Energy of the United States of America and the Ministry of National Infrastructures of the State of Israel, hereinafter the "Participants,"

ACKNOWLEDGING the need to consider environmentally sustainable energy resources to meet the needs of their respective countries' populations;

RECOGNIZING the need to address challenges facing both Participants' countries as well as the broader international community, of growing energy needs in a manner that contributes to reducing the harmful effects of greenhouse gases on the global climate;

NOTING the shared commitment of both Participants to maintaining the highest standards for development of sustainable energy and energy efficiency technologies; and

NOTING FURTHER the Agreement between the Department of Energy of the United States of America and the Ministry of National Infrastructures of the State of Israel Concerning Energy Cooperation of February 22, 2000 (the "Agreement"),

HAVE REACHED THE FOLLOWING UNDERSTANDING:

The Participants intend to advance their existing relationship under the Agreement in a manner that affirms their shared goals and commitments towards the development of technologies for sustainable energy and energy efficiency.

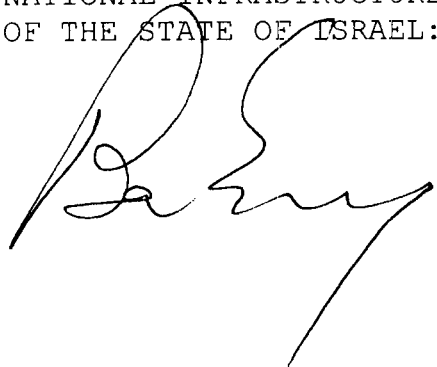
The Participants intend to develop a scope of work and a plan of action for cooperation between their relevant programs, within the framework of the Agreement, on solar energy, biomass/biofuels, energy efficiency and clean coal/carbon sequestration technologies, as well as other relevant technologies to be identified by them.

Signed in Washington, D.C., on the sixth day of March, 2008.

FOR THE DEPARTMENT OF ENERGY OF
THE UNITED STATES OF AMERICA:

Handwritten signature of Samuel W. Bodman in cursive script.

FOR THE MINISTRY OF
NATIONAL INFRASTRUCTURES
OF THE STATE OF ISRAEL:

Handwritten signature of Dan Meridor in cursive script.

MEMORANDUM OF UNDERSTANDING

BETWEEN

**THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA**

AND

**THE MINISTRY OF OIL
OF THE REPUBLIC OF IRAQ**

FOR

**COOPERATION ON ENERGY ANALYSIS, SCIENCE AND
TECHNOLOGY, AND ENERGY TECHNOLOGY DEMONSTRATION**

The Department of Energy of the United States of America and the Ministry of Oil of the Republic of Iraq, hereinafter referred to as the "Participants":

Having an interest in establishing cooperation in the areas of energy analysis, science and technology, and energy technology demonstration;

Having a mutual interest in exchanging experience and views on opportunities for the utilization of energy technologies and in fostering collaboration between the two countries in these areas, particularly through training, educational and capacity building activities;

Recognizing that energy security and the quality of life can be enhanced through effective and environmentally sound utilization of energy sources; and

Further recognizing that cooperation in the areas of energy analysis, science, technology, and energy technology demonstration would promote increased economic interaction, facilitate energy technology transfer, accelerate the commercialization of energy systems and products, and expand opportunities for international trade between the United States and Iraq;

Have reached the following understandings:

ARTICLE I

Under this Memorandum of Understanding (MOU), the Participants seek to facilitate appropriate joint activities relating to energy analysis, science and technology, and energy technology demonstration in areas of mutual interest, including, but not limited to, the following:

1. Fossil energy, including training on technical capacity, geological, and geophysical needs, enhanced oil recovery, and physical investment;
2. Environmental issues associated with energy transportation and production, including oil spill management and operational and safety standards;
3. Energy information, including collection, analysis, and forecasting
4. Such other areas as may be mutually determined by the Participants.

ARTICLE II

The forms of cooperation in the areas specified in Article I of this MOU may include the following:

1. Exchanging energy experts, specialists and scientists to participate in cooperative activities;
2. Organizing and participating in seminars, workshops and conferences on specific mutually agreed topics;
3. Exchanging information on the development and utilization of energy technologies that are economically sound and protect the environment;
4. Sharing relevant non-proprietary information and practical experience in energy fields;
5. Assisting Iraq in capacity development through training, joint government-industry activities, faculty and student exchanges and tours, and exploration of ways to promote transfer of skills and technology to support human resources development, and institutional infrastructure;
6. Such other forms of cooperation within the scope of this MOU as the Participants may mutually determine.

ARTICLE III

- A. The Participants intend to establish the United States-Iraqi Consultative Mechanism to promote energy analysis consultations, energy technology demonstration, and energy training and education with a focus on capacity building in Iraq.
- B. The Consultative Mechanism is to consist of representatives designated by the Participants. As mutually determined, the Participants may include representatives, from other organizations, as appropriate based on the agenda of their consultations

- C. Each Participant should appoint an official contact to prepare for the consultations and energy training and to be responsible for communication between the Participants.
- D. In view of the significant distance between the two countries, electronic and telephonic communications are the preferred modes of interaction.
- E. Meetings of the Consultative Mechanism and of the Participants' selected representatives may be held at such times and places as jointly determined by the Participants.

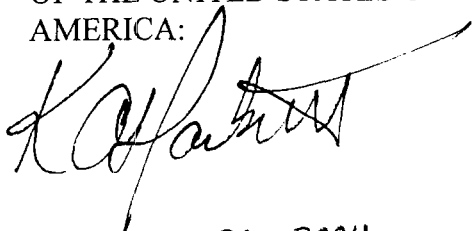
ARTICLE IV

Each Participant intends to endeavor, through coordination with the appropriate competent authorities to achieve the timely processing of visas and other forms of official permission for entry into and exit from its country of personnel of the other country engaged in cooperative activities under this MOU.

ARTICLE V

- A. Each Participant is to conduct the activities provided for under this MOU in accordance with its the applicable laws and regulations of its respective country. Each Participant is responsible for the costs of its own activities under this MOU, unless the Participants determine otherwise agree in writing.
- B. It is understood that this MOU does not create any legally binding obligations between the Participants.
- C. Implementation of this MOU may begin upon signature by both Participants. This MOU may be modified in writing by the Participants' mutual consent. Any such modification may take effect upon signature by the Participants. If either Participant wishes to end its cooperation under this MOU, it should endeavor to provide at least 90 days' advance written notice to the other Participant.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF
AMERICA:



Date: 12-20-2004

FOR THE MINISTRY OF OIL
THE REPUBLIC OF IRAQ:



Date:

Agreement
between
The Department of Energy of the United States of America
and
The Centre National de la Recherche Scientifique of France
for
Cooperation in Basic Scientific Research and Development

Preamble

The Department of Energy of the United States of America (DOE) and the Centre National de la Recherche Scientifique of France (CNRS), hereinafter referred to as the Parties;

Sharing an interest in contributing to the advancement of knowledge by fostering basic scientific research and development in leading scientific disciplines;

Recognizing that scientific advancement is a lasting endowment for future generations;

Believing that cooperation based on equitable sharing of their respective scientific facilities, capabilities, and experiences would be of mutual benefit; and

Desiring to facilitate the establishment and continuation of joint scientific research projects and scholarly links, and to initiate and establish new ones in fields of mutual interest;

Hereby agree as follows:

Article 1 - Objective

- 1.1 The objective of this Agreement is to establish a framework for cooperation between the Parties in the fields of basic scientific research and development (R&D).
- 1.2 Cooperation between the Parties shall be on the basis of mutual benefit, equality, and reciprocity.

Article 2 - Areas of Cooperation

2.1 Areas of basic scientific research cooperation may include but are not limited to:

- Basic Sciences: Mathematics, Theoretical Physics, Atomic and Molecular Physics, Optics and Lasers, Condensed Matter Physics, and Chemistry;
- Computer Science and Information Technology;
- High Energy Physics;
- Life Sciences;
- Nuclear Physics;
- Particle Astrophysics and Cosmology; and
- Other areas of mutual scientific interest.

Article 3 - Forms of Cooperation

Cooperation under this Agreement may include the following forms:

- 3.1 Exchange of researchers and staff members;
- 3.2 Exchange of scientific and engineering information and results and methods of research and development;
- 3.3 Organization of and participation in seminars or other meetings on specific, agreed-upon topics in the areas listed in Article 2;
- 3.4 Short visits by specialist teams or individuals to the facilities of the other Party, subject to the prior agreement of that Party;
- 3.5 Assignment of the staff of one Party, its contractors, or subsidiaries to the facilities of the other Party, its contractors, or subsidiaries in order to participate in agreed-upon research, development, design, analysis, or other experimental activities;
- 3.6 Exchange of materials and equipment for testing;
- 3.7 Exchange of technology and engineering drawings as appropriate to the areas of cooperation and as agreed to by the Parties;
- 3.8 Joint planning to utilize existing R&D capabilities related to scientific research and development in which common interests will be defined;
- 3.9 Joint projects in which the Parties agree to share work and/or costs, subject to written agreement of the Parties; and,
- 3.10 Such other specific forms of cooperation as the Parties may agree.

Article 4 - Implementing Arrangements

When the Parties agree to undertake a form of cooperation set forth in Article 3 that may involve the sharing of costs or the creation of intellectual property, they shall conclude an Implementing Arrangement subject to this Agreement. Each Implementing Arrangement shall include provisions for carrying out the cooperation and shall cover such matters as scientific and technical scope, as well as other elements necessary to define the activity and the role of the Parties. Activities under Implementing Arrangements may involve, as appropriate, associated firms or laboratories of the Parties or their contractors and subsidiaries.

Article 5 - Management

- 5.1 The Parties shall establish a DOE/CNRS Joint Coordinating Committee (JCC) composed of an equal number of representatives from each Party to supervise the cooperative activities under this Agreement. The JCC shall be co-chaired by Principal Coordinators designated by each Party. The JCC may establish Technical Subcommittees to manage specific cooperative activities initiated under this Agreement.
- 5.2 The JCC shall meet each year, alternately in the United States and in France, or at such other times and places as the Parties may agree.
- 5.3 At its meetings, the JCC shall evaluate the status of cooperation under this Agreement. This evaluation may include a review of the past year's activities and accomplishments under this Agreement, a review of the activities planned for the coming year within each of the active areas of cooperation listed in Article 2, an assessment of the balances of exchanges, and a consideration of measures to correct any imbalances. In addition, the JCC shall consider and act on any major new proposals for cooperation.
- 5.4 Management of cooperation under Implementing Arrangements, as defined in Article 4, shall be specified in the respective Implementing Arrangement documents, and shall be in accordance with the policy guidelines established by the JCC.

Article 6 - Intellectual Property Rights and Business-Confidential Information

The protection and allocation of intellectual property and the protection of business-confidential information created or furnished in the course of cooperative activities under this Agreement shall be governed by the agreement effected by the exchange of diplomatic notes on intellectual property between the Government of the United States of America and the Government of France of June 6, 1997. The text of the Annex on Intellectual Property attached to the diplomatic notes is incorporated into this Agreement as Annex 1, which forms an integral part of this Agreement.

Article 7 - Security Obligations

Provision for security of information and transfer of technology are set forth in Annex II. Annex II constitutes an integral part of this Agreement.

Article 8 - Disclaimer

Information transmitted by one Party to the other Party under this Agreement shall be accurate to the best knowledge and belief of the transmitting Party, but the transmitting Party does not warrant the suitability of the information transmitted for any particular use or application by the receiving Party or by any third Party.

Article 9 - Legal Provisions

Each Party's activities under this Agreement shall be in accordance with its national laws and regulations. All questions related to the Agreement arising during its term shall be settled by consultations between the Parties.

Article 10 - General Provision

The ability of each Party to carry out the activities contemplated by this Agreement is subject to the availability of personnel and appropriated funds. Except when otherwise specifically agreed in writing, each Party shall bear its own costs resulting from cooperation under this Agreement.

Article 11 - Duration, Amendment, and Termination

- 11.1 This Agreement shall enter into force upon signature and shall remain in force for a period of five (5) years. This Agreement shall automatically renew for further five-year (5) periods unless either Party notifies the other in writing at least six (6) months prior to the expiration of the first five-year period or any succeeding five-year period of its intent to terminate the Agreement.
- 11.2 This Agreement may be amended or extended by written agreement of the Parties.
- 11.3 This Agreement may be terminated at any time at the discretion of either Party upon six (6) months' advance notification in writing by the Party seeking to terminate the Agreement.
- 11.4 Joint efforts and experiments not completed at the expiration or termination of this Agreement may, on agreement of the Parties, be continued until their completion under the terms of this Agreement.

DONE at Washington in duplicate, this 4th day of April, 2005, in the English and French languages, each text being equally authentic.

FOR THE DEPARTMENT OF ENERGY OF
THE UNITED STATES OF AMERICA:

Raymond T. Ozbach

FOR THE CENTRE NATIONAL DE LA
RECHERCHE SCIENTIFIQUE OF FRANCE:

MSZ

Annex I: Intellectual Property

Preamble

Pursuant to Article 6 of this Agreement;

The Parties shall ensure adequate and effective protection of intellectual property created or furnished under this Agreement and relevant Implementing Arrangements. The Parties agree to notify one another in a timely fashion of any inventions or copyrighted works arising under this Agreement and to seek protection for such intellectual property in a timely fashion. Rights to such intellectual property shall be allocated as provided in this Annex.

I-Scope

- I-A. This Annex is applicable to all cooperative activities undertaken by the Parties or by the relevant entities (hereafter "cooperative entities") pursuant to this Agreement, except as otherwise specifically agreed by the Parties or their cooperative entities.
- I-B. For purposes of this Agreement, "intellectual property" shall have the meaning found in Article 2 of the convention establishing the World Intellectual Property Organization, done at Stockholm, July 14, 1967.
- I-C. This Annex addresses the allocation of rights, interests, and royalties between the Parties. Each Party shall ensure that the other Party or cooperative entities can obtain the rights to intellectual property allocated in accordance with the Annex. The allocation between a Party and participants on behalf of this Party in the cooperative activities, which shall be determined by the Party's laws and practices, shall not be altered or prejudiced by application of this Annex.
- I-D. Disputes concerning intellectual property arising under this Agreement should be resolved through discussions between the concerned participating institutions or, if necessary, the Parties or their designees. Upon mutual agreement of the Parties, a dispute shall be submitted to an arbitral tribunal for binding arbitration in accordance with the applicable rules of international law. Unless the Parties or their designees agree otherwise in writing, the arbitration rules of UNCITRAL shall govern.
- I-E. Termination or expiration of this Agreement shall not affect the rights or obligations under this Annex.

II-Allocation of Rights

- II-A. Each Party, subject to the restrictions of Article III of this Annex, shall be entitled to a nonexclusive, irrevocable, royalty-free license in all countries to translate, reproduce, and publicly distribute scientific and technical journal articles, and publicly available reports directly arising under this Agreement. All publicly distributed copies of a copyrighted work prepared under this provision shall indicate the names of the authors of the work unless an author explicitly declines to be named. Each Party or its

cooperative entities shall have the right to review a translation prior to public distribution.

II-B. Rights to all forms of intellectual property, other than those rights described in section II-A above, shall be allocated as follows:

II-B-1. Visiting researchers, for example, scientists visiting primarily in furtherance of their education, shall receive intellectual property rights under the policies of the host institution, unless a specific agreement is or has been signed between the host and forwarding institutions. In addition, each visiting researcher named as an inventor shall be entitled to treatment as a national of the host country with regard to awards, bonuses, benefits, or any other rewards, in accordance with the policies of the host institution.

II-B-2(A). For intellectual property created during joint research, the Parties or their cooperative entities shall jointly develop a technology management plan either prior to the start of their cooperation, for example in research areas likely to lead rapidly to industrial applications, or within a reasonable time from the time a Party becomes aware of the creation of intellectual property. The technology management plan shall consider the relative contributions of the Parties and their cooperative entities, the benefits of exclusive or nonexclusive licensing by territory or for field of use, requirements imposed by the Parties' domestic laws, and other factors deemed appropriate. If needed, the technology management plan shall be jointly modified or completed in a timely fashion, subject to the approval of both Parties or their cooperative entities.

II-B-2(B). If the Parties or their cooperative entities cannot reach agreement on a joint technology management plan within a reasonable time not to exceed six months from the time a Party becomes aware of the creation of the intellectual property in question, each Party may designate one co-exclusive licensee to have world-wide rights to said intellectual property. Each Party shall notify the other two months prior to making a designation under this paragraph. When both Parties (or their licensees) exploit the intellectual property in a country, they shall share equally the reasonable cost of intellectual property protection in that country.

II-B-2(C). A specific program of research will be regarded as joint research for purposes of allocating rights to intellectual property only when it is designated as such in the relevant Implementing Arrangement, otherwise the allocation of rights to intellectual property will be in accordance with paragraph II-B-1.

II-B-2(D). In the event that either Party believes that a particular joint research project under this Agreement will lead, or has led, to the creation or furnishing of intellectual property of a type not protected by the applicable laws of one of the Parties, the Parties shall immediately hold discussions to determine the allocation of the rights to the said intellectual property; the joint activities in question will be suspended during the discussions, unless otherwise agreed by the Parties thereto. If no agreement can be reached within a three month period from the date of the request for discussions, the

Parties shall cease the cooperation in the project in question. Notwithstanding paragraphs II-B-2(A) and (B), rights to any intellectual property that have been created will be resolved in accordance with the provisions of Article I-D.

III-Business-Confidential Information

In the event that information identified in a timely fashion as business-confidential is furnished or created under the Agreement, each Party and its cooperative entities shall protect such information in accordance with applicable laws, regulations, and administrative practice. Information may be identified as business-confidential information if a person having the information may derive an economic benefit from it or may obtain a competitive advantage over those who do not have it, the information is not generally known or publicly available from other sources, and the owner has not previously made the information available without imposing in a timely manner an obligation to keep it confidential. Without prior written consent, neither of the Parties shall disclose any business-confidential information provided by the other Party except to appropriate employees and government personnel. If expressly agreed between the Parties, business-confidential information may be disclosed to prime and subcontractors. Such disclosures shall be for use only within the scope of their contracts with the Parties relating to cooperation under the Agreement. The Parties shall impose, or shall have imposed, an obligation on those receiving such information to keep it confidential. If one of the Parties becomes aware that, under its laws or regulations, it will be, or may reasonably expected to become, unable to meet the non-disclosure provisions, it shall immediately inform the other Party. The Parties shall thereafter consult to define an appropriate course of action.

ANNEX II

SECURITY OBLIGATIONS

I. PROTECTION OF INFORMATION

Both Parties agree that no information or equipment requiring protection in the interests of national defense or foreign relations of either Party and classified in accordance with the applicable national laws and regulations shall be provided under this Agreement. In the event that information or equipment which is known or believed to require such protection is identified in the course of cooperative activities undertaken pursuant to this Agreement, it shall be brought immediately to the attention of the appropriate officials and the Parties shall consult concerning the need for and level of appropriate protection to be accorded such information or equipment.

II. TECHNOLOGY TRANSFER

The transfer of export-controlled information or equipment between the two countries shall be in accordance with the relevant laws and regulations of each Party to prevent the unauthorized transfer or retransfer of such information or equipment provided or produced under this Agreement. If either Party deems necessary, detailed provisions for the prevention of unauthorized transfer or retransfer of such information or equipment shall be incorporated into the contracts or Implementing Arrangements.

Implementing Arrangement No.1 under the Agreement

between

The Department of Energy of the United States of America

and

The Centre National de la Recherche Scientifique of France

for

Cooperation in Nuclear Physics Research

Article 1 - General

The purpose of this Implementing Arrangement (IA) is to establish between the Department of Energy of the United States of America (DOE) and the Centre National de la Recherche Scientifique of France (CNRS), hereinafter referred to as the Parties, areas of bilateral scientific collaboration focused on basic research and development in nuclear physics.

Cooperation under this Implementing Arrangement is subject to and governed by the Agreement between the Department of Energy of the United States of America and the Centre National de la Recherche Scientifique of France for Cooperation in Basic Scientific Research and Development, signed on April 4, 2005, hereinafter referred to as the Agreement.

Article 2 - Objectives

The overall objectives for cooperation under this Implementing Arrangement are to:

1. Exchange information on the respective strategies of the Parties in basic nuclear physics research;
2. Promote collaboration between DOE and CNRS to improve fundamental knowledge by pursuing scientific research and development in low- and intermediate-energy nuclear physics, and relativistic heavy ion physics.

Article 3 - Areas of Cooperation

Cooperation under this Implementing Arrangement may include, but is not limited to, the following areas:

- Exchange of researchers, including students;

- Conceptual design, research and development, and construction of systems or subcomponents, including:
 - Detectors;
 - Accelerators and their applications;
 - Software;
 - Electronics;
 - Computing.
- Theoretical research and simulation works;
- Nuclear data compilation;
- Planning, evaluation and review activities;
- Participation in experiments;
- Specific collaborative projects covered under Memoranda of Understanding (MOU), between laboratories and grantees supported individually and/or jointly by DOE and CNRS, in areas such as: relativistic heavy-ion collision physics, intermediate energy hadronic physics and rare isotope facilities;
- Other areas of nuclear science as the Parties may agree.

Article 4 - Management

Management of this cooperation will be achieved as described below:

1. The Parties shall establish a Nuclear Physics Subcommittee (NPS) to the Joint Coordinating Committee (JCC) defined in Article 5 of the Agreement, composed of an equal number of representatives of each Party, to oversee the work under this Implementing Arrangement. The NPS shall meet annually or as deemed appropriate, and provide programmatic guidance to the work conducted under this Implementing Arrangement.
2. The NPS shall periodically report on its activities to the JCC, particularly in advance of meetings of the JCC.
3. Management of the actual cooperative projects undertaken under this Implementing Arrangement shall be defined in the MOUs or other written instruments executed between the participating laboratories and scientists.

Article 5 - Finance

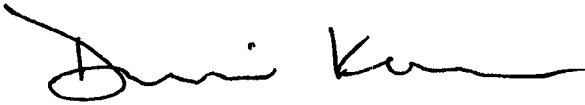
1. Except when the Parties agree otherwise in writing, each Party shall fund its participation in the cooperative program.
2. For exchanges of researchers and students, living expenses may be paid by the host country while travel expenses and salaries will be covered by the home institution. The NPS will review the exchange of personnel at its regular meetings to assure it is reasonably balanced between the Parties.

Article 6 - Duration and Termination

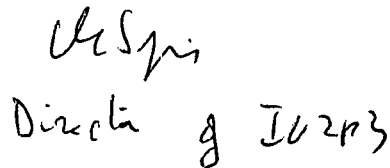
1. This Implementing Arrangement shall enter into force upon signature and shall remain in force for the duration of the Agreement.
2. This Implementing Arrangement may be amended by written agreement by the Parties.
3. Joint efforts and experiments not completed at the expiration or termination of this Implementing Arrangement may, by agreement of the Parties, be continued until their completion under the terms of the Agreement.
4. This Implementing Arrangement may be terminated at any time at the discretion of either Party, upon six months' advance notification in writing by the Party seeking to terminate it.

DONE at Washington in duplicate, this 4th day of April, 2005, in the English and French languages, each text being equally authentic.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:



FOR THE CENTRE NATIONAL DE LA
RECHERCHE SCIENTIFIQUE OF FRANCE:



Director of ICRP

Implementing Arrangement No.2 under the Agreement

between

The Department of Energy of the United States of America

and

The Centre National de la Recherche Scientifique of France

for

Cooperation in Particle Physics, Astrophysics and Cosmology

Article 1 - General

The purpose of this Implementing Arrangement (IA) is to establish between the Department of Energy of the United States of America (DOE) and the Centre National de la Recherche Scientifique of France (CNRS), hereinafter referred to as the Parties, areas of bilateral scientific collaboration focused on basic research and development in particle physics, astrophysics and cosmology.

Cooperation under this implementing Arrangement is subject to and governed by the Agreement between the Department of Energy of the United States of America and the Centre National de la Recherche Scientifique of France for Cooperation in Basic Scientific Research and Development, signed on April 4, 2005, hereinafter referred to as the Agreement.

Article 2 - Objectives

The overall objectives for cooperation under this Implementing Arrangement are to:

1. Exchange information on the respective strategies of the Parties in particle physics, astrophysics and cosmology;
2. Promote collaboration between DOE and CNRS to improve fundamental knowledge by pursuing scientific research and development (R&D) in particle physics, astrophysics and cosmology.

Article 3 - Areas of Cooperation

Cooperation under this Implementing Arrangement may include, but is not limited to, the following areas:

- Exchange of researchers, including students;

- Conceptual design, research and development, and construction of systems or subcomponents, including:
 - Detectors;
 - Accelerators and their applications;
 - Software;
 - Electronics;
 - Computing.
- Theoretical research and simulation works;
- Planning, evaluation and review activities;
- Participation in experiments;
- Specific collaborative projects covered under Memoranda of Understanding (MOU) between laboratories and grantees supported individually and/or jointly by DOE and CNRS, in areas such as: accelerator physics, the physics of the Standard Model and beyond, computation related to high energy physics, particle astrophysics and cosmological observatories;
- Other areas of particle physics, astrophysics and cosmology as the Parties may agree.

Article 4 - Management

Management of this cooperation will be achieved as described below:

1. The Parties shall establish a Particle Physics, Astrophysics and Cosmology Subcommittee (PPACS) to the Joint Coordinating Committee (JCC) defined in Article 5 of the Agreement, composed of an equal number of representatives of each Party, to oversee the work under this Implementing Arrangement. The PPACS shall meet annually or as deemed appropriate, and provide programmatic guidance to the work conducted under this Implementing Arrangement.
2. The PPACS shall periodically report on its activities to the Joint Coordinating Committee, particularly in advance of meetings of the JCC.
3. Management of the actual cooperative projects undertaken under this Implementing Arrangement shall be defined in the MOUs or other written instruments executed between the participating laboratories and scientists.

Article 5 - Finance

1. Except when the Parties agree otherwise in writing, each Party shall fund its participation in the cooperative program.
2. For exchanges of researchers and students, living expenses may be paid by the host Party while travel expenses and salaries will be covered by the home institution. The PPACS will review the exchange of personnel at its regular meetings to assure it is reasonably balanced between the Parties.

Article 6 - Duration and Termination


1. This Implementing Arrangement shall enter into force upon signature and shall remain in force for the duration of the Agreement.
2. This Implementing Arrangement may be amended by written agreement by the Parties.
3. Joint efforts and experiments not completed at the expiration or termination of this Implementing Arrangement may, by agreement of the Parties, be continued until their completion under the terms of the Agreement.
4. This Implementing Arrangement may be terminated at any time at the discretion of either Party, upon six months' advance notification in writing by the Party seeking to terminate it.

DONE at Washington in duplicate, this 4th day of April, 2005, in the English and French languages, each text being equally authentic.

FOR THE DEPARTMENT OF ENERGY
OF THE UNITED STATES OF AMERICA:



FOR THE CENTRE NATIONAL DE LA
RECHERCHE SCIENTIFIQUE OF FRANCE:


Director of JN2P3

